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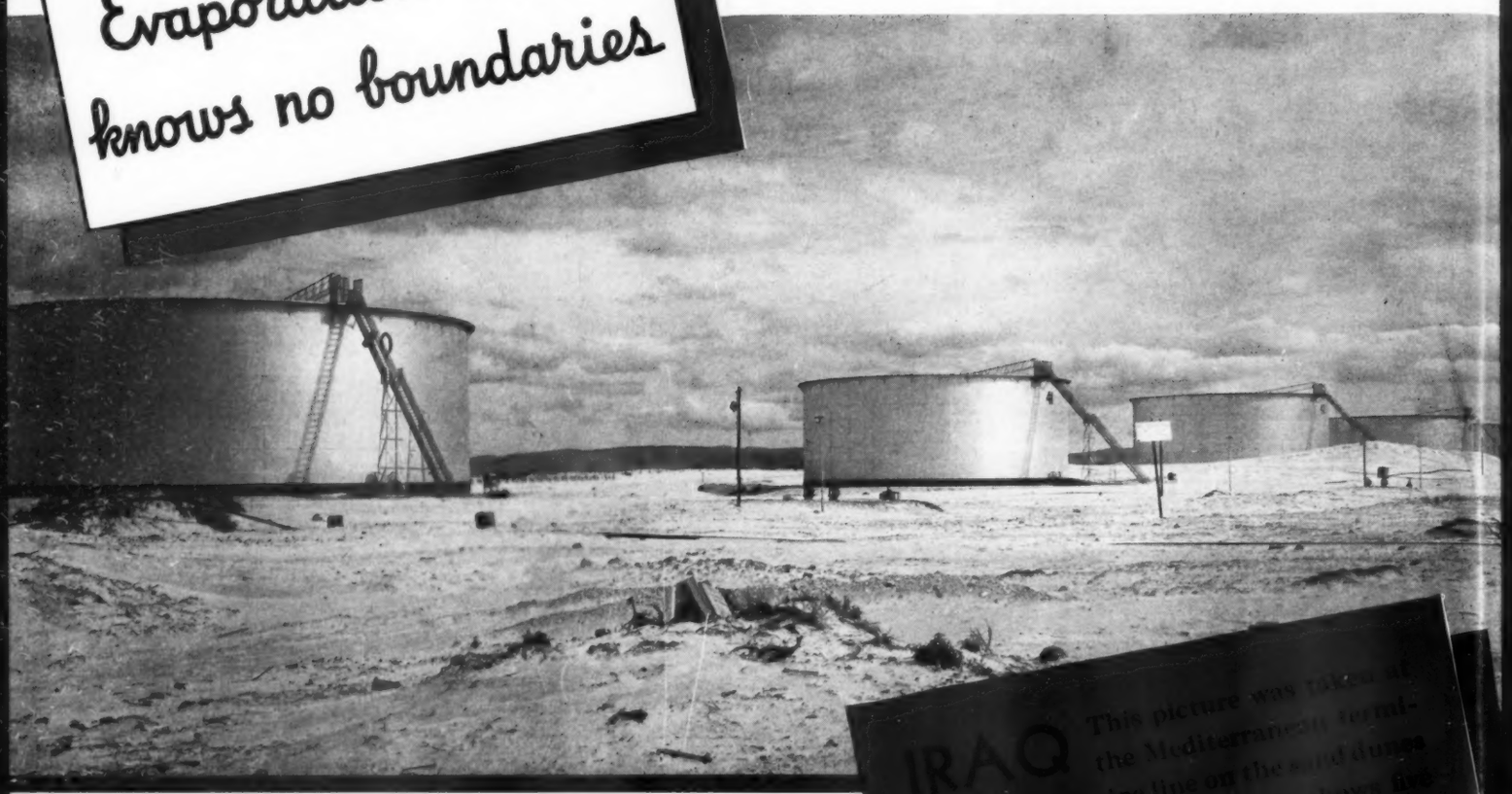
Hard Facing Teeth of HUGHES
"Self-Cleaning" Rock Bit Cones

Evaporation Waste knows no boundaries



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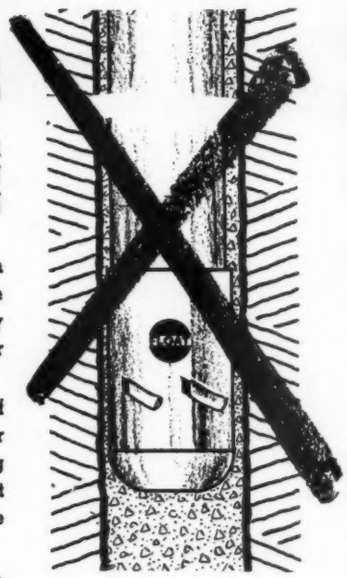
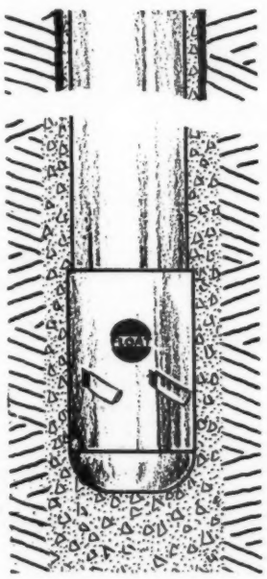
IN CEMENTING IT'S THE *Bond Between* THAT COUNTS





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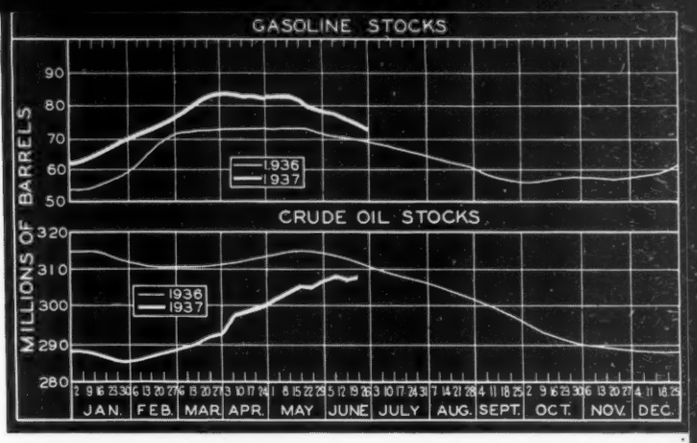


East Texas Price Raise at Stake

DEVELOPMENTS in the past few days indicate that the premium price position of East Texas crude over other Mid-Continent and Gulf Coast crudes will end shortly. Those most familiar with conditions feel that either other crudes must advance to the East Texas level or the latter will return to the posted schedules in effect before the 8-cent advance was announced May 22.

CRUDE PRODUCTION *3,539,555 barrels daily average—up 1,408 barrels.*

CRUDE STOCKS *307,465,000 barrels as of June 19—up 266,000 barrels.*

GASOLINE STOCKS *75,427,000 barrels as of June 26—down 1,147,000 barrels.*

REFINERY RUNS *3,235,000 barrels daily for week ending June 26—down 85,000.*

East Texas crude and refinery products at this time are at a competitive disadvantage in both southbound and northbound movements. In competing with the Gulf Coast, East Texas crude has a transportation cost to absorb. This along with the recent price increase has brought about a shifting to Gulf Coast crudes by some buyers. This accounts for the fact that East Texas crude in recent sales at the Gulf has not brought the posted field price plus full transportation charges of 19 to 20 cents per barrel including loading of tankers.

The situation is equally critical in the northbound movement of refinery products from East Texas. The East Texas posted price of $1.35 is about 8 cents higher than the price of a similar grade crude in Oklahoma or Kansas. To this must be added a 10-cent premium paid by many East Texas refiners. The East Texas operators are complaining that they cannot absorb this 18-cent differential plus higher freight charges in sales to northern markets. Their position became more acute following the reduction in posted dealer prices in the Middle West states. It has meant a reduction of 12½ cents per barrel in the netback of East Texas refiners selling their gasoline on long-time contracts to jobbers based on the dealer prices. There has been also a small reduction in open-market quotations on gasoline in both tankcar and tank-wagon sales.

This East Texas crisis has served further to emphasize the far-reaching importance of the one-half cent reduction in the Middle Western states made effective by the Standard of Indiana a month ago. Efforts are being made to adjust the conditions responsible for the decline. Many are hopeful of early success.

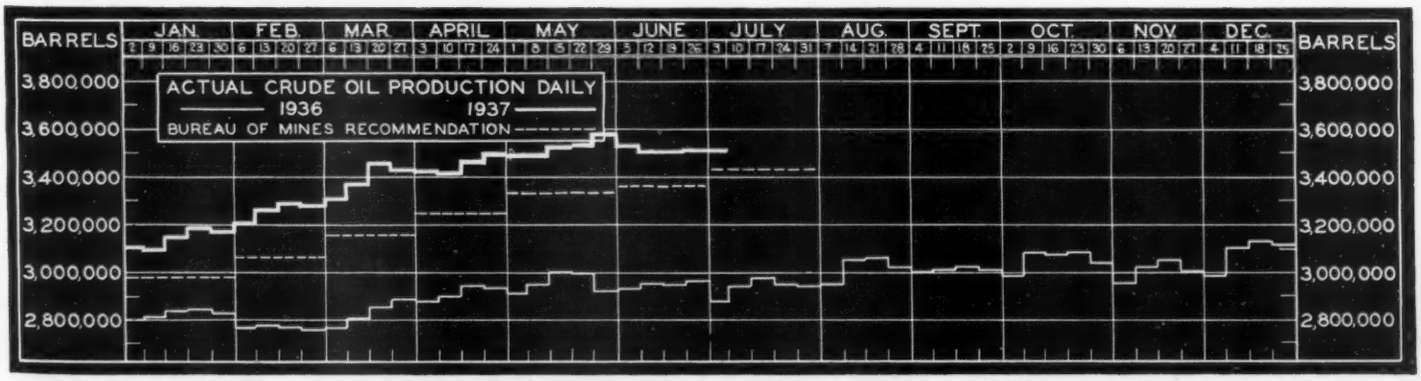
In field operations increasing interest is shown in the Arkansas extension of the Rodessa field and new Schuler field in that state. There is some fear that new producing areas in Arkansas will complicate the problem of keeping current production curtailed in line with current requirements. A conference of Arkansas, Texas and Louisiana will consider the problem this week.

Despite the strong agitation to keep July crude production at June levels or less, most observers are confident there will be an increase in several of the more important oil-producing states.

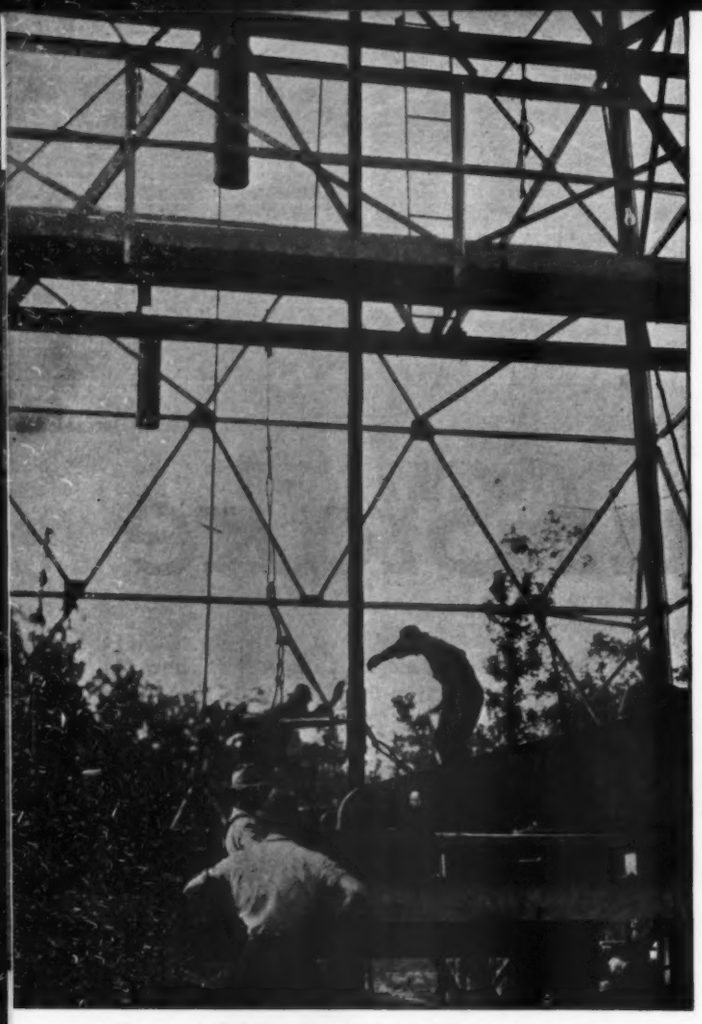
Daily Average Production for Week

	July 3 1937	Bur. Mines July est.	July State allowables	June 26 1937
Oklahoma City	160,575	.....	.....	147,075
Fitts	91,500	.....	.....	93,500
Remainder of State	367,525	.....	.....	391,500
Total Oklahoma	619,600	629,700	629,700	632,075
East Texas	472,015	.....	.....	469,500
West Texas	201,245	.....	.....	198,747
North Central Texas	106,297	.....	.....	106,198
Texas Panhandle	85,990	.....	.....	84,650
East Central Texas	125,692	.....	.....	122,200
Gulf Coast—Texas	333,196	.....	.....	328,699
Southwest Texas	103,787	.....	.....	103,449
Total Texas	1,428,222	1,375,100	1,385,100	1,413,443
North Louisiana	88,295	.....	.....	85,555
Gulf Coast—Louisiana	178,314	.....	.....	175,150
Total Louisiana	266,609	253,000	263,000	260,705
California	655,750	605,500	605,500	654,500
Kansas	193,000	195,600	195,600	199,025
Arkansas	28,335	28,400	.....	28,355
Eastern Fields	120,025	122,100	.....	122,000
Michigan	43,094	39,800	.....	42,184
New Mexico	114,730	100,800	114,500	114,580
Rocky Mountain area	70,190	73,800	.....	71,280
Total United States	3,539,555	3,423,800	.....	3,538,147

Increase 1,408 bbls. daily.



Origin of Glen Is Interesting



Lowering joint of drill pipe at 8,500 feet in Cotton Valley field of Webster Parish, Louisiana

By H. D. EASTON, JR.
Shreveport, La.

Rodessa and Lisbon are the two major oil fields of North Louisiana, and each finds its production in very porous lime beneath the anhydrite of the Glen Rose. These highly porous calcareous oil zones are quite susceptible to acid treatment, particularly at Lisbon, where all wells are acidized. Because so much oil is being produced from these established fields, and more is indicated in recent discoveries, it seems a fitting time to discuss the nature of these Glen Rose pays and to do a little speculating as to the origin of these formations, as well as the overlying anhydrite.

Great variation in the thickness of beds is found beneath the base of the Upper Crétaceous and the anhydrite zone of the Glen Rose. Such variation is the result of a major unconformity between the Upper and Lower Cretaceous. For example, in the Pine Island field of Caddo Parish there is very little separation between the Woodbine and the anhydrite; in fact the anhydrite is almost immediately beneath the Woodbine. North Louisiana's first Glen Rose production was found in honeycombed anhydrite in Pine Island at a drilling depth of 2,812 feet. In the shallow Bellevue field of Bossier Parish, same 15 miles northeast of Shreveport, the anhydrite is punched up and truncated not far below the Nacatoch producing sand. Upon deepening a Nacatoch producing well in Bellevue one would find no anhydrite at all but would be drilling the Lower Glen Rose, and the Travis Peak formations shortly after penetrating the Nacatoch. Off to one side of the Bellevue Nacatoch production some oil and gas has been found beneath the anhydrite at a depth of 1,800 feet.

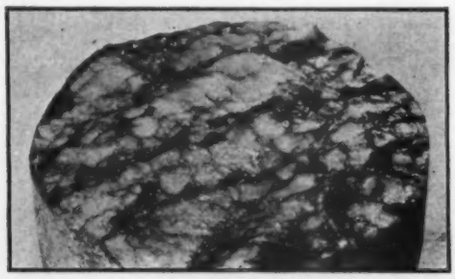


Plate 2—Typical Glen Rose anhydrites. This is the first Glen Rose anhydrite ever cored in North Louisiana

These two examples show that hundreds (or even thousands) of feet of Washita, Fredericksburg, and Upper Glen Rose are entirely missing, whereas on other structures there often is 3,000 feet or more of beds between the Woodbine and the anhydrite. A chart, "Producing Zones On and Around the Sabine Uplift," accompanying an article by H. D. Easton, Sr., in the November 26, 1936, issue of The Oil and Gas Journal gives a graphic idea of the magnitude of this unconformity.

Except that all Glen Rose production has been found in or below the anhydrite zone, a study of the North Louisiana Glen Rose fields will show no particular level in the Glen Rose beds which provides the production, but that porous zones occupy varying positions. In other words we revert to the old saying, "Oil is where you find it," and you may find it any place in the Glen Rose.

Our first Glen Rose production is in the anhydrite itself. At Cotton Valley, the very rich gas (which gave what was known as "gasoline wells") was found not in the anhydrite proper but in and near the base of the anhydrite zone, and another producing level was encountered about 150 feet below the main anhydrite. In Sugar Creek the first pay was found immediately below the anhydrite, and additional pays have been established deeper, in Travis Peak and in the Black Marine beds. In the Rodessa field production comes from four separate porous zones, Hill, Gloyd, Dees and Young, occurring within the first 500 feet below the anhydrite, as well as from some "stray" sands. But at Jefferson, Texas, a southwest extension of the Rodessa field, all the porosity is largely bunched together as one producing zone. At Lisbon, as well as Sligo which is now producing oil, there is no oil-producing porosity in any of the above-mentioned zones; their oil is coming from the Pettit sand at the very base of the Glen Rose.

Thus it is seen that no wildcat to Glen Rose depths should stop short of the base of the Glen Rose, and additional footage into the underlying Travis Peak would be justified. Not that one should advocate the idea of "Never abandon a well without drilling 100 feet deeper," but the history of the North Louisiana fields indicates that no Glen Rose test should be considered a failure unless and until *all* of the Glen Rose beds have been proven unproductive. Production can be found in any one of these main zones or (as in some portions of the Rodessa field) in "stray" sands not otherwise classified, even though all the other zones be barren. The recent establishment of production from a zone known as the "Mitchell sand" in Miller County, Arkansas, which converted Rodessa into the nation's first tri-state field, is an oustanding example of the potentialities of Glen Rose "strays." As these Glen Rose porous zones are so much of a hit-and-miss proposition there must be a reason, hence the desirability of looking into the manner in which these beds were laid down.

Whereas most stratified formations (e.g., sands, shales) are examples of orderly sedimentation caused by rivers and shorelines breaking down the hills and washing their materials out into an ocean where they settle to bottom, but coral, gypsum (and anhydrite) and rock salt would be more correctly classified as chemical, rather than mechanical deposits. Gypsum and anhydrite seem chiefly direct chemical precipitations from evaporating sea water, although some may owe its origin to chemical action upon limestone. Likewise, most rock salt was originally laid down through evaporation. Coral is an animal which is a chemical factory within itself, extracting lime

New Discoveries Add to Importance of Glen Rose Producing Horizons

The first important Glen Rose oil production was discovered in the Rodessa field on July 7, 1935, two years ago Wednesday. To date a total of 40,112,690 bbls. have been recovered from this Glen Rose field alone.

Important extensions have been made west into Texas, north into Louisiana, and east into Arkansas of this tri-state Glen Rose field during the past 30 days. Remaining recoverable reserves from this field, including new extensions, are estimated at 200,000,000 bbls.

Stimulated by the discovery of prolific production from the Glen Rose section of Lower Trinity two years ago, one of the most active exploratory and deep drilling campaigns ever witnessed was begun in the Ark-La-Tex area. As a result, over 25 new oil or gas fields have been opened in the territory from this horizon or below, and five new important deeper producing zones have been discovered as wildcat objectives in the Pettit lime (basal Glen Rose), the Travis Peak section, or Lower Marine beds. Thirty-six wildcat tests are now going down in the area, all of which have the Lower Glen Rose and below as their objective.

Rose Formation Geologic Study

Plate 1—Living coral in northwestern Australia showing magnitude of deposits as builders of limestone

from the sea water and depositing it. Of particular interest is the part coral plays. As we cannot go back a few thousand or million years to Glen Rose time to watch this anhydrite, gypsum, oolitic lime, coral and coquina being deposited, we shall instead investigate similar conditions known in the world today.

Coral played a part in making the Glen Rose beds, the results being shown particularly in oolitic lime and coquina. Much of the coral has lost its identity throughout the ages, with only the lime or calcite remaining as a tribute to the labors of the little animals, but Glen Rose samples can and do show plenty of recognizable coral. Of course, everybody knows that coral is a stationary flower-like animal which collects and secretes pure lime (calcite) from rather shallow warm ocean waters, and builds a horny calcareous external skeleton. The paleontologists has classified jelly fishes, corals, and some other aquatic animals together under the general heading, "Coelenterata"—and a subdivision for coral is called "Anthozoa," meaning nothing more imposing than "flowering animals." To be sure, coral is of great beauty when living and, likewise, gem carol, with its special colorings, is very pretty material, but at present we are interested in accumulated and altered coral skeletons now buried 5,000 to 6,000 feet beneath surface in North Louisiana.

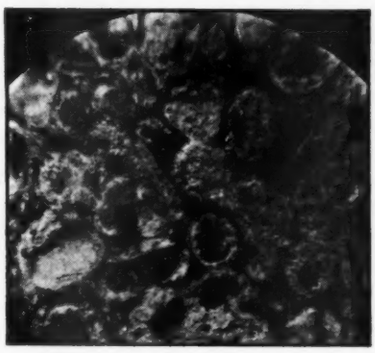


Plate 3 — Photomicrograph of Glen Rose Oolitic lime magnified 23 times

There are many present-day corals at work building limestones and the paleontologist knows numerous extinct varieties and fully realizes the amazing amount of work done by these submarine flower gardens throughout geological time. The driller sends the core-barrel down where he may, and often does, bring up a sample of lime rock which, upon examination, reveals itself to be but the "boneyard" of ancient beautiful animals.

To appreciate the magnitude of these coral deposits as builders of limestone from Paleozoic time on down to the present, one should note the great extent of coral reefs now growing and building. The outstanding example is the Great Barrier Reef of Australia, which covers 33,000 square miles. This great reef is nearly 1,250 miles long, has a width of from 10 to 90 miles and extends along the Australian coastline 20 to 70 miles out from the shore of the mainland.

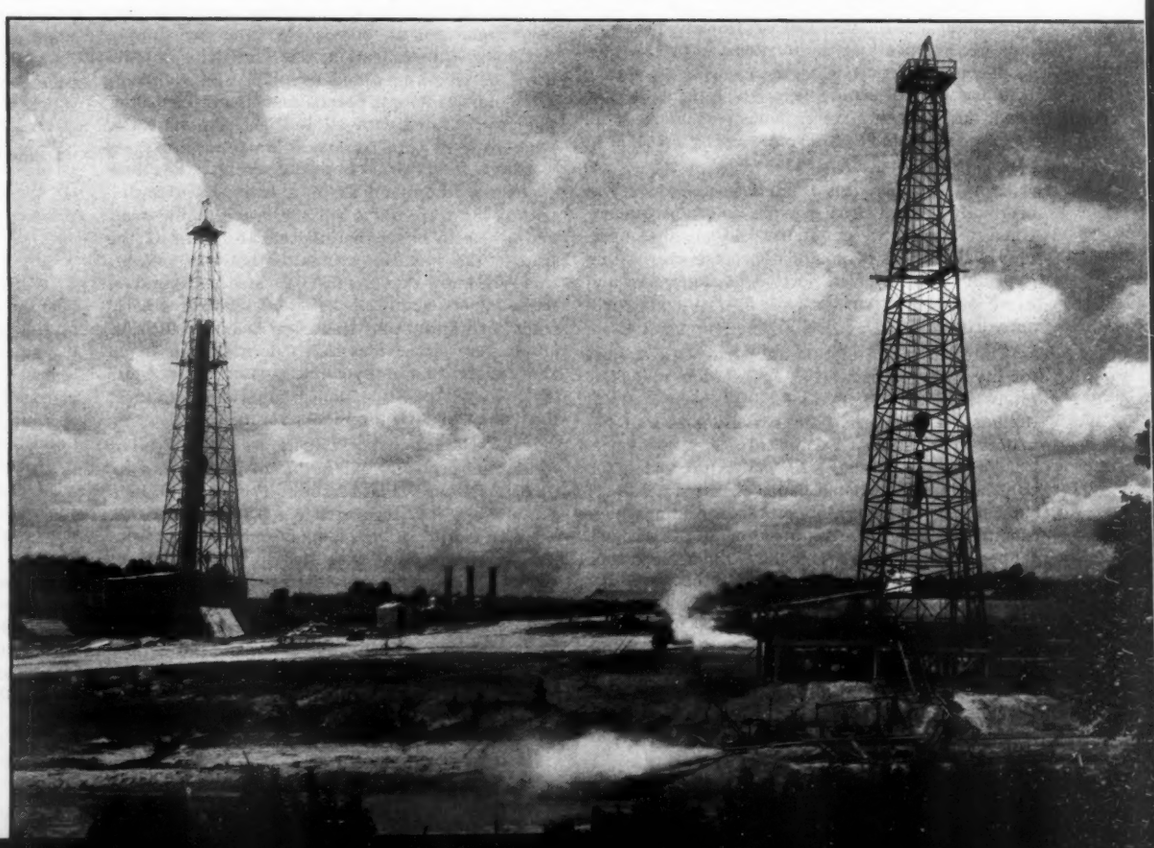
Plate 1,[1] taken near Montgomery Island, Northwestern Australia, shows 20 square miles of living coral. The Nor'west Scientific Expedition chopped and blasted a channel which allowed the water to drain from one of the many picturesque lagoons. The water level inside the lagoon then fell about 7 feet and exposed this great area of coral and enabled photographer William Jackson to picture the extent and nature of this animal flower garden. Note the "staghorn" and "brain" polyps; these two are the main reef builders as their skeletons accumulate and are piled around by the ocean waves.

The many branches, especially when stripped of organic living matter, pile up like sticks or straw and offer plenty of open spaces in which oil and gas could accumulate. Just as the small boy described a fish-net as "a lot of holes with string around them," we find a lot of space with coral skeletons around it. This straw pile might retain much of its porosity when covered by sediments, or its openings might largely become filled with fine sediments or with lime precipitated from water heavily charged with calcium carbonate; or heat and pressure might compact the whole into nonporous lime rocks or marble. Much of this pure lime could, in turn, go into solution and be reprecipitated as filling material. Other conditions would permit weathering or solution so as to make the limestone cavernous or honeycombed, yet of sufficient structural strength to bear enormous loads of overlying sediments. Prior to being blanketed by shale and other sediments, wave action would grind down considerable coral into rounded grains to form oolites, later consolidated into oolitic lime or "sand." Once ground down and rounded, these grains would be enlarged by the accumulation of concentric layers of lime coming out of solution—or, first attrition, then accretion.

Glen Rose Application

Picture these present-day reefs in a Glen Rose sea almost entirely free from sand and mud. Coral, shells and the hard parts of other organisms are slowly building a layer of nearly pure, but by no means solid, limestone. Suppose this sea to be slowly subsiding (a frequent occurrence in past geologic seas). There may be times when this subsidence is so rapid that the water becomes too deep for coral to thrive, faster than it can build up to its customary shallow habitat, then let deposits of mud come in to form what will later be known as shale. That is just what took place in the Glen Rose times, producing coquina zones of great porosity and oolitic lime, the entire footage of which (chemically or mineralogically speaking) is principally pure, porous calcite. The "coquina,"

Rodessa field where first important Glen Rose production was found two years ago



as usually found in the Glen Rose, is not the true textbook coquina which is a cemented mass of shells. This "coquina" would more correctly be described as "highly porous, or honeycombed calcite."

Anhydrite

Suppose this shallow sea, after having already laid down numerous beds of coral skeletons with layers of shale between, has become an evaporating pan. There are no big streams bringing mud and sand and fresh water, but only a densely briny sea free from sediments. Just as in our Great Salt Laks, such a sea will precipitate gypsum and salt, or even anhydrite as such. All this evidently happened in Glen Rose times following the days of the coral seas.

Anhydrite ($CaSO_4$) and gypsum ($CaSO_4 + H_2O$) are the same minerals except that gypsum has "water in its molecule." If gypsum is heated sufficiently to drive out all of the chemical water, anhydrite results. Conversely, the assimilation of water can, under proper conditions, revert anhydrite to gypsum. Although they are the same mineral chemically, with the exception of the molecular water, they are two distinct minerals in other respects. Gypsum is soft (1½ to 2) which is soft enough to be readily cut with a knife or even a thumb nail, and is tough. Anhydrite is much harder (3 to 3½) and brittle. Anhydrite is occasionally found in a fibrous form as "hair salt." Cores of anhydrite from the Glen Rose show quite a variety of colors, the characteristic being blue, resinous, muddy white and sometimes, more especially in the stringers, clear white and pink. A core of Glen Rose anhydrite, when polished, makes a very attractive desk ornament and paperweight.

Anhydrite occurs in formations of various ages, usually accompanied by layers of rock salt; it is usually present as cap material on salt domes and has more recently become an important feature in the active Glen Rose drilling campaign over North Louisiana and adjacent parts of Arkansas and Texas. Seismologists find it an excellent reflecting surface in an area of fractured, faulted, folded and irregular younger sediments.

The customary accompanying beds of rock salt have not been found with the Glen Rose anhydrite but no operater need be surprised to core some of it in the anhydrite zone. Association of rock salt and anhydrite is more or less the rule in New York state and in West Texas. However, calcium sulfate, as gypsum or as anhydrite, is precipitated from evaporating sea water at an earlier stage than common salt. Of course, layers of salt might have been, and probably were, deposited; most or all of it seems to have been removed by solution at some later time.

More probably, this Glen Rose anhydrite was originally deposited as gypsum and subsequently converted to its present state by loss of the molecular water. The commercial process of roasting gypsum to drive off a portion of the water and make plaster of paris would, if continued, yield anhydrite.

The true origin of this anhydrite is a subject for investigation as well as speculation, and is of interest to the U. S. Geological Survey. M. J. Goldman, a member of the survey, goes into the matter in Bulletin of Geological Society of America, Vol. 40, pp. 99-100, 1929, and is preparing for publication an additional paper of elaboration and extension. "The question of the form in which calcium sulfate is precipitated in nature has not yet been settled. It is even believed that there may be an alteration in the same bodies of water between the deposition of gypsum and the deposition of anhydrite; an alteration that may take place even between day and night, the gypsum being deposited at night when the water from which it is precipitated cools and the anhydrite during the heat of day." This from Dr. W. A. Mendenhall, director of the U. S. Geological Survey.

My own idea would be that very little anhydrite would be precipitated as such, but that in general the original deposits would be almost wholly gypsum, later becoming anhydrite through dehydration of gypsum by time, heat and pressure. But that is enough for anhydrite; able technical minds are at work on the question and we are interested here in the economic aspects. And anhydrite has no commercial uses; at the surface where it outcrops (for example in Sevier County, Arkansas) it has been weathered into gypsum, or half-and-half gypsum-anhydrite.

Areal Extent of Anhydrite Zone and Glen Rose Pay

The very nature of sea which deposited the anhydrite zone, the oolitic lime, the coquina and other Glen Rose porous zones, precludes its having had any great width. We are not now speaking of the Glen Rose as an age (formations of this age are widespread) but of the anhydrite zone and the shallow sea which formed it. Of necessity such a shallow sea would be relatively narrow, but could be very long just as is our Great Barrier Reef.

That this is true has been shown by wells drilled from Rodessa southward. In the Rodessa field the anhydrite zone may be considered as about 750 feet thick, including massive anhydrite and all stringers. In Sabine Parish, near Noble, also in De Soto Parish, near Longstreet, the anhydrite is nearly all missing. At Noble (section 10-8n-13w) Long Bell Lumber Co. No. A-1 was cored throughout, so its record is perfect. Its first anhydrite, at 5,490 feet, was but 2 inches thick; its second, at 5,588 feet, was 4 inches; its third was solid for 15 feet, 5,662-5,677 feet; its fourth was thin streaks in shale from 5,693 to 5,715 feet, and its fifth and last was a little in shale from 5,854 to 5,860 feet. The total thickness of the anhydrite zone was only 370 feet, in which there was a total of less than 20 feet of anhydrite. That well cored all the way to 7,155 feet and found no other anhydrite.

Not only is a thinning out of anhydrite to the south logical, but a complete change in the nature of the Glen Rose beds—no red beds at all, only gray lime and dark shale—is expected, and found.

This discussion of Glen Rose anhydrite can be summarized as follows: Whether primary or secondary mineralization, this anhydrite is indicative of conditions under which and following after our Glen Rose porous traps were deposited, later to be filled with oil and gas. I don't know where this oil came from, nor how it got into these waiting reservoirs, but do recall the four requisites for an oil field: a trap, space for oil within the trap, oil to fill the space in the trap, and a hole to bring the oil from the space in the trap to the surface. No matter how the oil gets there we know that North Louisiana has abundant faults and folds to make many fine structural traps; we know that there are beds which offer ample pore space, that the region abounds in oil and gas and that all over this portion of the country there are plenty of holes going down to meet the last-named requirements for an oil field.

Plate 1 shows modern examples of the type of coral beds probably extant in this region during Glen Rose times. Plate 2 shows typical (and, incidentally, the first recovered) Glen Rose anhydrite. A photograph of the honeycombed anhydrite which gave our first Glen Rose production is not available. Efforts to core it recovered absolutely nothing. However, the composition of the pay zones was indicated by cuttings consisting solely of small fragments of friable anhydrite. An article by John Ivy on the Rodessa field, The Oil and Gas Journal, April 16, 1936, includes illustrations showing samples respectively of "coquina," the Dees sand, and the Young oolitic "sand."

Oolitic "Sand"

As most of us do not have access to a microscope, The Oil and Gas Journal has prepared the photomicrographs, Plate 3, which shows a magnification of 23 times from a sample of Glen Rose oolitic lime. This sample is typical of oolitic lime as known in other ages the world over, but although "typical" oolitic lime it is not typical of the Glen Rose; most Glen Rose oolites are larger, coarser and darker than these more nearly testbook type oolites. At first glance these photographs look rather blotchy, but a closer inspection reveals an appearance similar to a mass of fish eggs. This eggy look gives oolites their name; this variety of limestone consisting of rounded grains like fish roe derives its name from two Greek words which means "egg-stone." So typical of the upper part of the Jurassic system is oolitic lime that in England and some other parts of Europe the Upper Jurassic is known as "Oolite." To repeat, these oolites constitutes a kind of sand formed by the action of waves on fragments of corals and shells. The fragments are ground down to their rounded form and are often enlarged by deposition of concentric layers of lime from saturated sea water. When a number of these oolites has been cemented together into rock, we have oolitic lime and when this cementation has been comparatively slight, instead of hard rock we find the porous mealy lime which forms so much of our saturated Glen Rose reservoirs.

Conclusion

From a study of present-day marine activity, particularly in the Great Barrier Reef, we can arrive at a clearer understanding of how the Glen Rose pay zones were laid down. Because the sands, the oolitic limes, the coquinas and the anhydrite were deposited not in orderly uniform layers in a gradually receding or encroaching sea, but occurred in irregular tidal basins and "evaporating pans," we can understand the irregularity of occurrence of porous layers which constitute traps for oil and gas, and can appreciate the necessity of exploration of the entire thickness of Glen Rose before giving up hopes of encountering one of these porous horizons. A study of photographs of coral reefs now being formed, and of actual samples of Glen Rose age in which the pore space is plainly visible explains the high porosities often found in these Glen Rose beds and the resultant high productivity.

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[1]Courtesy of M. P. Greenwood-Adams, traveler, writer, lecturer for the National Geographic Society, Washington, D. C. See also "Australia, Wild Wonder Land," National Geographic Magazine, March, 1924, by Mr. Greenwood-Adams.

Rules for Well Spacing

AUSTIN, Tex.—The State Railroad Commission heard evidence here on conditions in the El Tanque oil field of Starr County as a preliminary to adopting rules concerning spacing of wells. The hearing was requested by the Sun Oil Co., which has one well in the field and objected to the spacing of four wells on another lease. F. E. Heath of Dallas, representing the Sun company, testified the four wells, drilled on the lease of G. E. Dodd, trustee, were 300 feet apart, or on the basis of one well to 2 acres, and this was opposed to good conservation practices. Herbert Davenport of Brownsville, on behalf of the Dodd interests and other landowners, replied the four wells had been drilled to protect financing and none others were contemplated on that lease at this time. Little was known of subsurface conditions, he said, urging few restrictions until limits of the pool and other information had been obtained.

General view of Richfield's present Watson, Calif., refinery. The company will let contracts this week on a $5,000,000 modernization program

Richfield to Let Contracts for Refinery Expansion

The Richfield Oil Corp., a recently acquired subsidiary of the Consolidated Oil Corp., will build a $5,000,000 refinery on the site of its present plant at Watson, Calif. Contracts for most of the construction work are to be let this week.

The new plant will have a capacity of 60,000 bbls. of crude oil daily, which is approximately 25 per cent more than the present refinery can handle, and will include only the most modern types of equipment. The distillation facilities will consist of two 30,000-bbl.-per-day combination topping and cracking units. Augmenting these, the company will install a polymerization unit capable of processing 6,000,000 feet of refinery gases daily. This unit will take all of the gas resulting from the cracking operations. To completely balance the operation a vapor recovery system and gasoline stabilizing unit will be installed.

Use Electricity

This combination operation will provide the company with facilities that will make most economically motor fuels of exceptionally high antiknock value. In installing this equipment, less than the usual quantity of gas will be available for use as fuel, and due to this fact, coupled with the relatively low electric power rates available in the area, the company has decided to install electrically driven pumps and other electrically operated equipment wherever possible. This move represents a deviation from the usual California refinery practices, for in the past gas has been most readily available and has been considered cheaper.

Construction will start as soon as all details have been completed, and after the contracts for the major items are closed this week, active work is expected to start on a large scale. Upon completion of the plant, which will probably be late this year or in the first months of next year, Richfield will be provided with the most modern type of refinery equipment on the West Coast. This move also marks the beginning of the Consolidated Oil Corp.'s bid for more of the West Coast business. The Consolidated corporation obtained control of Richfield several months ago, ending a receivership for the Richfield properties which became effective in 1931. The able handling of the company's affairs during this period permitted Richfield to retain much of the business it had developed previously. Retail station reports which show the relative gallonage of gasoline sold within the state places Richfield among the first six companies in California. The annual gallonage has been in excess of 100,000,000 gallons annually in recent years.

Through the merging of the interests of the Rio Grande Oil Co. and Richfield, formally approved December 21 of last year, as part of the plan of reorganization worked out by Consolidated Oil and Cities Service interests, H. F. Sinclair principal driving force in the long series of controversies, has been able to establish a major West Coast unit. He has brought this about without losing the identity of the Richfield company as an integrated and independently operated unit.

Richfield Officers

At its first meeting, the directors of the reorganized Richfield company elected Charles S. Jones, for six years president of the Rio Grande Oil Co., as president of Richfield. H. F. Sinclair was elected chairman of the board and William C. McDuffie was elected chairman of the executive committee. Cities Service was given chief representation through the election of W. Alton Jones as chairman of the finance committee.

Shortly after the election of the officers, it was understood that Richfield was considering expansion and modernization of those refineries brought under the new operating arrangement, and it was known that a relatively large sum would need to be spent to bring these facilities to the degree of operating economy and efficiency desired. The announcement this week that $5,000,000 would be spent on the Watson plant was not unexpected but helps to confirm the original belief that a large portion of the $15,000,000 of new capital supplied to Richfield will go into plant improvements and field equipment.

Four Original Plants

At present Richfield is operating its 40,000-bbl. refinery located at Watson and part of its 55,000-bbl. plant at Hynes, the two units being very close together. Its smaller plants at Bakersfield and Los Angeles remain idle. It is believed that as a result of the enlargement of the Watson plant, the original Richfield operations will be concentrated at Watson. The 10,000-bbl. plant formerly identified as that of the Rio Grande Oil Co. continues to operate at Vinvale. The original Watson plant was built by the Doheny (Pan American) interests and was acquired by Richfield in the early twenties. Its facilities were expanded so that operations were practically complete, including lubricating oils and asphalts.

The building of Black cracking units was one of the first major cracking installations to be made on the West Coast. The battery had a capacity of 16,000 bbls. daily. Some of the divisions of the complete refinery have not been operated in recent years. It is understood that all of the existing crude distillation and cracking facilities will be shut down as soon as the new equipment is in operation.

SPARKS FROM THE NEWS

LAUGHS LAST

The only all-woman-owned oil company in Texas reports a producer on a lease which operators turned over to their wives because they thought the tract was outside the producing limits.

WEST TEXAS ACTIVITIES

It is a dull week in which West Texas does not report either a new field, a new sand or an important extension—sometimes all three.

AIR MARKET

The oil industry is interested in estimates that in 1937 more than $100,000,000 will be spent for planes and parts. Estimated demand for aviation products, 20 per cent larger than last year.

CONSISTENT

A Californian won $25,000 on an Irish Sweepstakes ticket, and now is sinking the money in a new Mexico wildcat as "just another gamble," he says.

NO CURE

Another unfulfilled prediction: The one that adoption of the dealer marketing plan would end gasoline pricecutting. The resources of the natural-born pricecutter were unsuspected.

ADVANCE GUARD

Many major companies will soon be adding an "exploratory department" to direct scientific search for new oil reserves. This department will combine geology, geophysics and modern drilling practice.

SOUND BASIS

It is significant that a reorganized West Coast unit getting its house in order for sound operations will spend five million dollars modernizing a refinery.

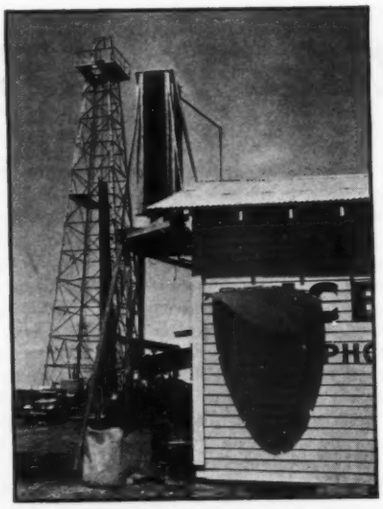
NEW DRILLING PRACTICE

Making hole with little more than a rubber hose and a jet of water is a shallow drilling experiment being tried out in the Mid-Continent area. If successful it will quickly leave the experimental stage.

WITHOUT HONOR

The prophet who said Glen Rose horizons would never show important oil production has taken a seat alongside those who for many years have been predicting an oil famine.

FLUE DOOR FLEW



When an oil field boiler in Talco field exploded, the flue door sailed one-fourth mile and penetrated the 10-inch wall of an ice-house

KANSAS HEAT

Methods of taking potentials are resulting in heated arguments among Kansas operators, one group favoring decline curves and another arguing for physical tests every six months.

MORE AND MORE

A survey points out there are not only more automotive vehicles, but each one consumes more gasoline yearly.

LOOKING AHEAD

Another well in Clay County adds to interest in southeastern Illinois and southwestern Indiana, which many say will be among the most active exploration areas of the industry by early 1938.

A WEEK A YEAR

It might help to emphasize the burden of state and federal gasoline taxes to the average motorist if he were told that he has to work seven or more days each year to pay them.

ULTIMATENESS

That Schuler pool in Arkansas is credited with "high flow and bottom-hole pressure, large sand thickness, good porosity and saturation, high initial production and a wide area." Anything overlooked?

NEVER GIVES UP

They still are finding new producing areas in the stripper district of Eastern Kansas, where the search for oil began as far back as 1860.

STILL VAPOR-LOCKING

Motorists still complain about their cars vapor-locking during the hot weather and the cooperative efforts on the part of automotive and refining engineers to avert this trouble must be continued.

A. S. T. M. Head Sees Expanding Markets for Oil

By H. STANLEY NORMAN

A. C. FIELDNER

NEW YORK, July 3.—The oil and natural gas industries will be called upon to supply constantly expanding fuel requirements of this nation and the world at large so long as the production of existing pools and new discoveries remain adequate. New demands for petroleum products will be an important factor in future requirements.

The conclusions were drawn from the remarks of Arno C. Fieldner, president of the American Society for Testing Materials, in addressing the fortieth annual meeting of the organization in New York this week. Doctor Fieldner, chief of the technological branch, U. S. Bureau of Mines, Washington, D. C., chose the topics "Fuels of Today and Tomorrow" for the president's annual address.

"Estimates of the total national reserves of petroleum cannot be made," Doctor Fieldner said. "We can deal only with proved reserves. In 1934, the U.S.G.S. estimated the oil in the ground recoverable by the current methods of production at 13,000,000,000 bbls., and the most recent estimate—that of January 1, 1937, by a committee of the A.P.I.—puts the reserve at virtually the same figure.

"The deposits of oil shale, largely in the Rocky Mountain states, are estimated to contain a potential supply of 92,000,000,000 bbls. of crude oil—an amount sufficient to maintain the present annual rate of oil production for nearly 100 years.

"The ultimate reserves of natural gas cannot be estimated. Fifty-five per cent of the natural gas is produced in association with oil; therefore, oil exhaustion means the end of natural gas from these particular areas. Reliable estimates of reserves of individual gas fields are being made, but this work has not covered the country as a whole.

"Conservative estimates of the proved reserves by individual authorities range from 30,000,000,000,000 to 40,000,000,000,000 cubic feet. Other estimates are placed at considerably higher figures. At the present rate of 2,000,000,000,000 cubic feet of production per year, this amount would last 15 to 20 years. Here also, new sources will be discovered and the life of the fields, no doubt, will be extended greatly as growing social control will prohibit waste and low-grade use of this ideal form of our national fuel supply."

Contributions by the refining branch of the industry to extending the life of America's petroleum reserves were accorded full credit by Doctor Fieldner who showed how cracking is now responsible for recovery of gasoline ranging up to 44 per cent of the original charge. Doctor Fieldner also touched on the indications that further advances in the art of dealing with hydrocarbons present in petroleum will add materially to obtaining the most out of raw crude. Polymerization, a process now in its infancy, and hydrogenation, which is also being adopted by refiners, are the two most commonly known new methods of increasing the usable products recoverable from petroleum, Doctor Fieldner said.

Use of Butane

The A.S.T.M. president also advanced the probability that butane will be used as a direct motor fuel. Compression ratios of 10 to 1 are possible without detonation. Combustion is complete, and higher efficiencies are obtainable than with present-day gasoline. The use of propane and butane as fuel for stationary units is increasing. Doctor Fieldner said, and interesting experiments have been made in combining power production with refrigeration on trucks and with air cooling of buses.

Diesel Popularity

In dealing with the broad canvas of future fuel requirements, Doctor Fieldner visualizes a material shift in future refinery operations due to increasing popularity and recent development of the diesel engine into a light mobile motor. He said that the end has not been reached in gasoline motor fuel production.

"We are just beginning to use scientific methods in extracting oil from the sands, and catalytic polymerization and hydrogenation eventually will furnish the means of complete conversion of volatile liquids and heavy petroleum to gasoline.

Trend May Change

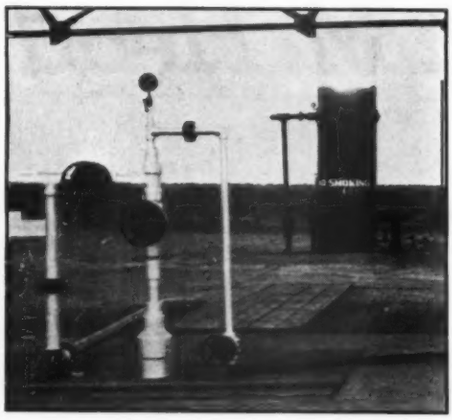
"Although such complete conversion is possible, recent development of the diesel engine into a light mobile motor is likely to change this trend. The sales of diesel engines in terms of rated horsepower increased from 750,000 in 1934 to 1,830,000 in 1936. Sixty-four per cent of the horsepower sold in 1936 was applied to portable or automotive equipment and consisted of units of less than 100 hp. Due to the higher thermal efficiency of the diesel engine and to the fact that it can use the heavier fractions now employed as cracking stock for gasoline, approximately three times the mileage should be obtained from a gallon of crude oil utilized for diesel fuel than is obtained by conversion to gasoline.

"Continuation of present trends toward diesel power for other purposes also will increase the demand for the heavier oils, resulting in a material shift in future refinery operations. Obviously, economic considerations favor the development of that combination of motor and fuel which converts the greatest portion of the energy in the original petroleum into useful work from the finished fuel."

While unable to foresee the time at which different sources for motor fuel will be necessary to replace petroleum, Doctor Fieldner points out that the nation's coal supply is adequate to last several hundred years. In this connection, one of the exhibits on display at the annual A.S.T.M. meeting was of the U. S. Bureau of Mines coal hydrogenation experiment station at Pittsburgh which started operation last April.

Ask for Tax Refund

WASHINGTON, D. C.—The Standard Oil Co. of Kansas, successor to the Standard Oil Co. of Neodesha, Kans., has filed suit in the U. S. Court of Claims for recovery of income taxes totaling $131,898. The plaintiff, which maintains its principal office in Houston, Tex., alleged in its petition that in 1929 and 1930 the earlier company had overestimated the value of gasoline refining equipment. The equipment was made obsolete, the petition said, by increased public demand for "high test" gasoline between 1920 and 1929.



Installation in Jal field, lifting 6,000 bbls. of fluid daily with recovery of 50 bbls. of oil

Apply Zone Theory to Jal Production

By NEIL WILLIAMS

MIDLAND, Tex.—An effective program of remedial work designed to combat water encroachment and reclaim oil from the undepleted zones is being carried out by Continental Oil Co. in the Jal field, Lea County, southeastern New Mexico. As a result, premature abandonment of wells is being prevented and ultimate recovery of oil increased.

Operations to a large extent have been reduced to a "skimming" status. Water, which made it appearance early in the field, is present in large quantities in all the company's wells. This has made more difficult recovery of the remaining oil.

Development of the "zoning theory," which shows the producing horizon to consist of a succession of porous zones, each independent as far as movement of gas, oil and water is concerned, and separated by less porous, barren zones, provides the background for the remedial work and oil reclamation program.

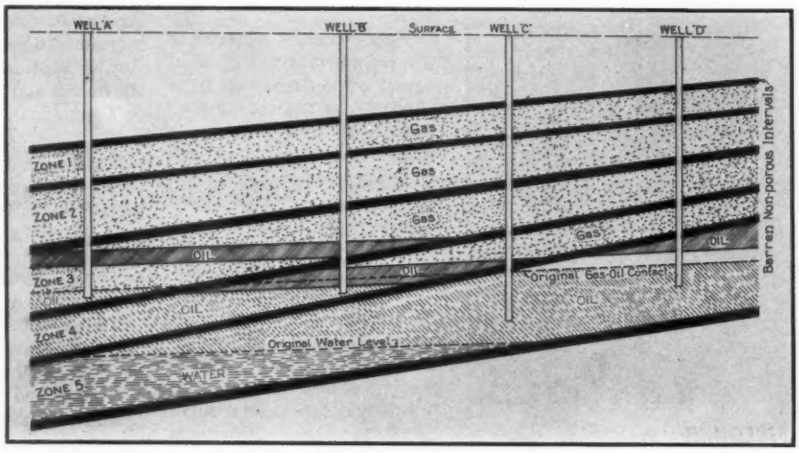
The "zoning theory" was worked out by Paul N. Collis-ton, geologist and petroleum engineer, Continental Oil Co., Hobbs, N. Mex., and George L. Klingamen of the California Co. (now Standard Oil Co. of Texas), in a thorough study of the structural and producing conditions, made since the bulk of the development took place.

In this study the producing section was divided into five main porous zones with intervening barren zones which conform in general to the structure. It was found the permeability and porosity of these zones vary considerably over the field, and that the zones contain gas, oil or water according to their structural position.

Neither of the upper two porous zones intersects the gas-oil contact within the producing limits and all wells contain only gas. The third zone has proved a big producer of gas but intersects the gas-oil contact within the producing limits, and in wells downdip on the west side oil has been obtained. The fourth zone is a rather thin interval, but, intersecting the gas-oil contact, it also has produced oil in wells structurally low. This zone is playing an important part in the remedial program and has done much to increase the ultimate recovery.

Principal production has been obtained from the fifth or lowest of the porous zones. During early life of the field, the gas-oil contact was in such position that in the majority of the higher wells the production string of casing was set in or below the barren interval between the fourth and fifth porous zones, leaving only the latter exposed.

This main producing zone has been found subdivided into thin alternate barren and porous intervals without connecting vertical porosity. This, it is believed, accounts for the early appearance of water in wells in that zone. Most wells were completed with several porous intervals open, and as the permeability and porosity varies from one interval to another, some intervals yielded oil faster than others, bringing water into the well.

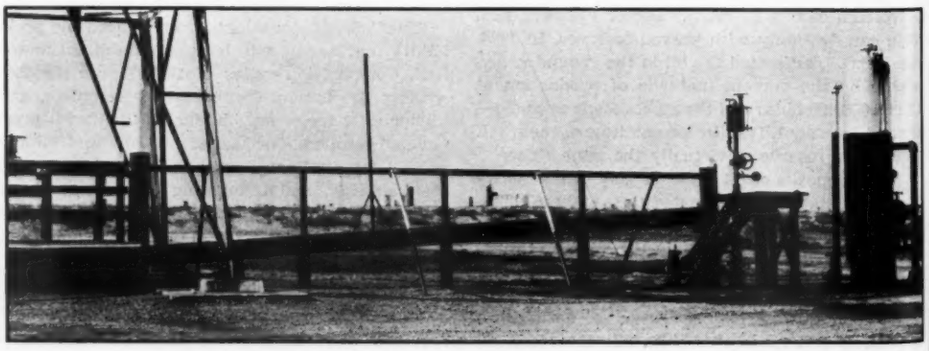


The "Zoning Theory" and its relationship to the remedial program under way at Jal: The dotted horizontal lines show the original gas-oil and water contacts with wells completed within these contacts in the three lower zones. The shaded lines show the (possible) present oil levels in respect to the wells indicated. Well D will plug back to the shaded line shown in Zone 5. Well C has depleted its oil in Zone 5 and will plug back to the shaded line in Zone 4. Withdrawals of gas in structurally high wells in Zone 4 have resulted in a movement of the oil and water up-dip to Well C's position. When Well C was drilled the zone showed only gas. Well B can plug back higher in the same zone (Zone 4) or to the shaded line in Zone 3. Well A will plug back to the shaded line in the same zone (Zone 3)

Most of the development took place before the advent of modern efficient drilling and completion practices, and operators were not so proficient in the determination of the most favorable productive levels. Also a large part of the production was obtained under flush, open-flow methods not conducive to conservation. These factors contributed to the rapid encroachment of water, and with lack of information on reservoir conditions, effective control of the water was impossible. When the volume of water produced reached a point where the oil in that particular zone was drowned out or depleted, little was left except abandonment. Before the "zoning theory," it was not realized it was possible in many instances to shut off a water producing interval or zone, leaving other zones from which oil could be removed.

Originally gas-oil and water contacts were practically flat over the reservoir. This led to the assumption structure did not control accumulation and that a common reservoir existed with connecting vertical porosity throughout. As development proceeded and withdrawals increased, differential levels developed in the positions of the contacts so that, instead of these contacts being flat over the field, the levels varied from zone to zone, depending on the permeability and porosity of the zones, and extent of withdrawals from the zones. This indicated the movement of gas, oil and water, although from a common source, was not vertical throughout the reservoir.

As the gas-oil and water contacts were found to be practically flat in the original development, the porosity and permeability of the intervening barren zones evidently were great enough over geological time to permit vertical communication between the porous zones and allow a condition of equilibrium to be set up. However, over relatively short



Water knock-out hook-up in Cooper field

periods of production, the porosity was not great enough to be effective for communication, thus confining movement of gas, oil and water to the porous zones.

The remedial work involves several phases. The first has to do with wells producing from the fifth, or main zone, and concerns determination of the intervals which have gone to water. The procedure has been to set a packer, with perforated tubing above, first just above the lowest producing porous interval to seal off this interval. By watching the production it can be noted whether oil or water, or both, has been shut off. If the interval proves water bearing, the hole is plugged back above the interval. If the well continues to make water it is known water also has been coming from another interval. When it is indicated water is coming from an intermediate interval, a cement squeeze job is attempted. As the cement has a tendency to set in the water zones and not in oil, effective results are obtained generally in checking water encroachment and cementing off intervals making water, leaving the oil producing intervals open.

The next phase comes when all the producing intervals are depleted, or the volume of water production is so great efforts to recover what little oil is left are not practical. Then recompletion of such a well in a higher zone is undertaken. Before the "zoning theory" it was believed the only alternative was a gas well. It has been learned since that withdrawals of gas from wells structurally high has caused a movement of oil and water updip in each of the producing porous zones. Thus, although structurally low wells in these zones go to water, some structurally high wells which originally found only gas in these zones get commercial production by being plugged back in the casing and gun perforated in these zones. However, those wells which are located so high structurally the movement of oil updip in their zones has not reached their positions in the structure still have only the prospect of being recompleted as gas wells in the upper zones. The top two porous zones which originally did not intersect the gas-oil and water contacts continue to yield only gas.

Although the volume of oil remaining in each zone is diminishing as withdrawals continue and increasing water has to be handled, recovery of the oil is being effected efficiently. By use of flow valves in the tubing string with gas as the medium, Continental Oil Co. and other operators have lifted large volumes of fluid. As the recovery of oil, in wells where gas lift is necessary, is dependent upon the quantity of fluid produced, the principal measure of efficiency has been the gas-fluid ratio. Under present practices only 150 to 250 feet of gas is being required to lift a barrel of fluid.

With an adequate gas supply available, such a ratio is well within the economic limits of production and justifies recovery of relatively small proportions of oil with the fluid. In this way, Continental has been able to prolong the commercial life of its wells and increase the total recovery. It has one well producing profitably with a recovery of only 50 bbls. of oil daily from a total of about 6,000 bbls. of fluid lifted.

Gas conservation has been one major problem in the Jal field. Due to lack of knowledge of reservoir conditions during the early development, some wells were completed with high gas-oil ratios. As conditions became known, mistakes were corrected as well as possible and wells were completed with more efficient producing conditions.

Experiences at Jal have profited operators in the recent development of the Cooper field, a few miles north. Structural and producing conditions there have been found similar to those at Jal, and with development of more efficient methods, more effective control and greater conservation of reservoir energy is possible.

Lack of available gas at Cooper, should gas lift be desired, has been given serious consideration. It is possible, however, gas can be transported from Jal so that the highest ultimate recovery can be attained in Cooper in the same manner as at Jal. Utilizing Jal gas, gas-fluid ratios will be placed on a parity with those at Jal and the same economic limitation of the relationship between the value of oil recovered to the gas used it is believed would apply there as at Jal.

Bids on State Oil Lands

AUSTIN, Tex. — The land office will receive bids July 27 for mineral leases on 155 tracts of state lands in seven counties. The average includes seven 480-acre tracts in the Gulf of Mexico in Jefferson County, one tract of 1,170 acres in the Ramon Musquiz Survey in Calhoun, Victoria and Jackson counties, 64 tracts ranging from 60 to 320 acres in the Companon, St. Louis, Aransas and Red Fish bays in Aransas and Nueces counties, and 83 tracts of varying size in the Tres Palacios River and bay, and Matagorda and Turdle bays in Matagorda County.

Motion for Rehearing Is Filed by Shell in Antitrust Case

AUSTIN, Tex.—The Shell Petroleum Co. filed a motion for a rehearing in the $17,000,000 oil company antitrust suit, asking the Texas Supreme Court to modify the language of its opinion in the case. The motion opens what is expected to be a hard-fought battle in the trial court, as the brief was concerned with the effect which statements by the Supreme Court would have upon a jury in the lower court trial which the court ordered. The state is trying to oust 16 oil companies from Texas and to impose heavy penalties.

The chief point of the brief is the contention that the Texas court of last resort erroneously interpreted the intent of the Federal Trade Commission in approving the "code of fair practices" upon which the attorney general's suit originally was based. That code, Shell contends, was in fact designed to prevent "various subterranean and sinister practices, which were in their nature destructive." The state claimed that the code sanctioned antitrust law violations. Shell's attorneys claimed they were meant to eliminate cutthroat practices.

The Supreme Court, by "merely adopting the economic philosophy of the attorney general" instead of that of the trade commission, has placed upon the defendant oil companies the burden of proving not only that the attorney general was wrong, but that the Supreme Court also was wrong, the brief says in effect. Fifteen other companies affected may file similar motions.

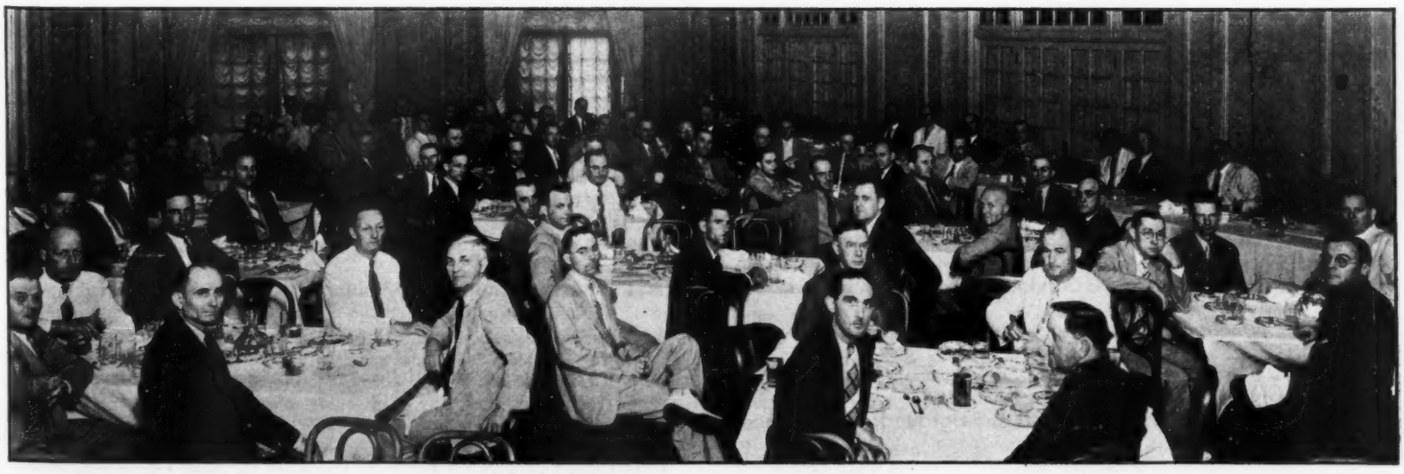
Union Agreements Signed

LOS ANGELES, Calif.—Signing of union shop agreements with 79 independent gas stations in Los Angeles and Pasadena was reported at the Central Labor Council. The contracts were made with the Gas Station and Parking Lot Attendants' Union, Local 20,548, an A. F. of L. affiliate. Nine parking lot contracts were effected during the same time.

Examiner to Hear Charges

VERNON, Tex.—A trial examiner will be named from the Washington office of the National Labor Relations Board to hear charges against the Waggoner Refining Co. and the W. T. Waggoner Estate that the discharge of 17 employes violated the Wagner Act. The hearing has been set for July 12.

Completing Plans for Oil-World Exposition



Officers, directors and members of Oil-World Exposition, Inc., held annual membership meeting in Houston. Final plans for Oil-World Exposition to be held at Houston, October 11-16 were discussed

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

The Real Barometer

Crude oil storage is scheduled for consideration next week at the Santa Fe meeting of the Interstate Oil Compact Commission. The commission wants to know more about the minimum working requirements and the quality of oil in tanks.

Recent discussions of these subjects indicate that the interstate body, and many in the industry, may attach too much significance to these inventories in their relationship to continued healthy conditions in the oil business.

There is danger that they may attempt to control something which under present conditions isn't controllable and shouldn't be.

In this connection a great deal is made of the fact, particularly in investment circles, that crude stocks are the lowest in 15 years. It is pointed out that there are 225,000,000 barrels less than in 1929 and based on days' supply, they have been reduced more than 50 per cent from the peak.

This emphasis is a hangover from the days when variations in field and pipe line storage were a fairly accurate barometer of basic conditions in the oil industry.

Proration and the development of conservation principles changed this relatively simple application of the law of supply and demand which guided the first 70 years of the industry's growth. In 1926, Oklahoma enforced a proration program in Seminole thus preventing a flood of oil which would have gone to storage at reduced prices.

What is more important, it taught the industry, in effect, that it could store oil underground and produce it as needed. Gas and hydrostatic pressures were conserved, resulting in higher ultimate recoveries at lower costs. The net result was that the industry started out on a policy of increasing its underground storage and reducing that aboveground.

The economic importance of this change was that underground storage became the criterion of basic conditions in the oil industry with crude stocks in tankage reduced in most instances to minimum requirements.

So far as these aboveground inventories are concerned, they are certain to fluctuate as in the case of refinery products. These variations simply reflect changes in operating positions of individual companies depending on both supply and demand and over which there can be no general control. It is doubtful if the Compact Commission can serve a constructive end by attempting to dictate what these working stocks should be, now or later.

Obviously the fundamental problems of the industry center in the orderly production of crude from these known reserves, now many times larger than the quantity of crude in storage. The main responsibility of the commission and the oil states is to see that crude is not produced at excessive rates so that the industry is forced needlessly to fill its empty tanks again.

It also suggests that these bodies, with the cooperation of the industry, should expand their activities with studies which would give the industry a detailed report from time to time as to the volume of these stocks several hundred to several thousand feet underground.

This gauge would become the real barometer of the industry's well being and one which over a period of time would determine price movements for both crude oil and refinery products.

Gasoline Consumption Graded by Classification of Vehicles

By JOHN D. HARRIS and ROGER S. RANDOLPH
Yale Law School

Of the total gasoline consumed in 1936 passenger cars accounted for 70 per cent, trucks 22 per cent, and buses 8 per cent. The total consumption of gasoline by motor vehicles for the years 1928 to 1936 is shown on the accompanying chart, broken down into passenger car, truck, and bus consumption. It is the purpose of this article to explain this breakdown for the year 1936.

It has been authoritatively estimated that passenger cars, trucks, and buses account for 90 per cent of the total gasoline consumed.[1] The other 10 per cent is used by airplanes, farm tractors, motorcycles, etc.

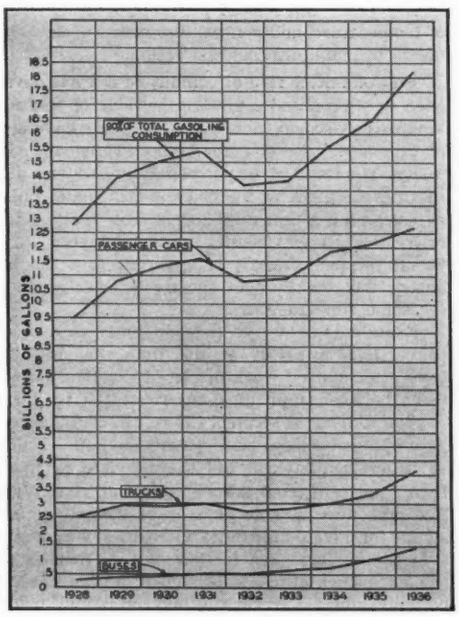
The consumption of gasoline by passenger cars was arrived at by several means. The first consideration was to discover the segment of the market occupied by the small car. It was determined that for the years 1931-1936, Plymouth, Ford, and Chevrolet accounted for about 70 per cent of all cars sold.[2] Figuring about six years as the average life of a car, we have thus arrived at a fairly close estimate of the percentage of small cars in use in 1936, that is, 70 per cent. In a study made of all cars driven in one state, it was found the average motorist travels at an average speed of 40 miles per hour.[3] At that speed, these small cars average about 19.6 miles to the gallon.[4]

About 19 Miles Per Gallon

Thus 70 per cent of all automobiles average about 19 miles per gallon. This figure is reduced somewhat by the age of the car. As a usual thing, the second year finds the least number of miles per gallon, with the average rising again in the third and fourth years.[5] The 30 per cent segment of the market, occupied by larger cars ranging from a light six to a heavy eight, averaged about 13.2 miles per gallon.[6] We thus have a range of from 13.2 to 19.6 miles to the gallon for all automobiles, with the weighted average being 17.6. We felt that in view of such factors as summer driving, higher speeds, age of car, and passenger load, this was too high. It was accordingly reduced to 16 miles per gallon, which even then was below official estimates.[7]

To find the average miles traveled in 1936 was more difficult. The American Automobile Association stated that it was 10,000 miles. Another source with a sample of 800 cars of all makes got 11,000 miles.[8] Still another sample of 158 cars, taken from a subsidiary of a large public utility, reported 8,000 miles. The figures of the Federal Coordinator of Transportation show that in a large sample, light private delivery trucks, (with a weight quite similar to a large sedan), averaged 9,000 miles. It was felt that, taking into consideration the large concentration of city-driven automobiles, the correct figure lay between 8,000 and 10,000 or about 9,000 miles for the year.

These figures make the average passenger car in 1936 consume 562 gallons. This was confirmed by another source, which stated that in 1935 the average motorist spent about $100 for gasoline.[9] It is the belief of the authors this closely approximates the expenditure for 1936, as conditions have not materially changed in the space of one year. As the average service station price for 1936 was 19.4 cents, this comes to about 520 gallons for the year 1936. In 1936, there were registered an average of 24,168,329 passenger cars in the United States.[10] Taking the higher figure of 562 gallons



Consumers classified

per year as more nearly correct, we find the total gallonage of passenger cars for the year to be 13,582,600,898, or, for convenience, about 13,500,000,000 gallons.

Close to 70,000 Miles Annually

There were in 1936 about 123,000 buses in the United States.[11] Dividing the country into geographical areas, as New England, Southeast, Mid-Continent, etc., it was found interstate and intercity buses averaged about 16,700 gallons per year, while the average annual mileage ran close to 70,000 miles. Using the same analysis for city buses, it was found that the average city bus used 10,700 gallons in 1936, and travelled 48,000 miles. This excludes school buses. It was felt that school buses had characteristics of each of the above classes as to size, weight, and load; therefore probably consumed from 10,700 to 16,700 gallons, probably nearer to 10,700 gallons as their daily use is limited and they are not used in the summer at all. The resultant weighted average for all buses was about 13,700 gallons for the year, or a total gallonage for all buses of 1,685,100,000 or for convenience, 1,700,000,000 gallons.

State registration figures show that in 1936 there were in use in the United States 3,795,051 truck.[13] Any determination of the average gasoline consumption and average annual mileage of the truck is made difficult, because of the many factors peculiar to trucking operations, chief of which are variations in size of truck, loaded and unloaded hauling, etc. In 1935, Joseph B. Eastman, Federal Coordinator of Transportation, reported the results of an elaborate study of trucking operations.[13] More than 18,000 trucks throughout the country were classified and observed; results were tabulated, graphs were drawn showing average gross load, average annual mileage, and average gasoline consumption for trucks of all sizes.[14]

Results obtained in 1935 are closely applicable in 1936. We do not believe the compression ratios, average load and distances traveled by trucks, have varied as much between 1935 and 1936, as for example from 1932 and 1936 where the total variation in any of the above factors is appreciable. The real variation is to be found in the absolute numbers of trucks, which have increased from 3,500,000 in 1935 to 3,795,051 in 1936.

Small Trucks Predominate

For convenience, all trucks were divided into three groups: 1½ tons and less, 1½ to 3 tons, and over 3 tons. A study by the U. S. Bureau of Public Roads showed that the first class comprised 83 per cent of the total, or 3,149,892 units, the second class included 11 per cent of the total, or 417,456 units, and the third class was 6 per cent of the total or 227,703 units. This was confirmed by taking an average of truck manufacturers' production figures for the years 1931-1936, the average life of a truck being about five or six years.

It was estimated from the figures of the Coordinator of Transportation that the average truck for all classes ran about 65 per cent loaded. In the first class (1½ tons and less), 1 ton was taken as the mean average capacity (rated), and it was found such truck averaged .10 gallon per mile. It was then necessary to divide the trucks into private and for hire classes. The U. S. Bureau of Public Roads revealed that, in a survey conducted in 11 states, 86 per cent of all trucks operating were privately owned and operated. Eighty-six per cent of Class 1 (3,149,892) shows that in this class 2,708,907 trucks were private and 440,985 were commercial. The average private truck went 11,000 miles, used .10 gallon per mile, and therefore burned 1,100 gallons during the year. As there were 2,708,907 of these private trucks, they consumed a total of 2,979,797,700 gallons. Commercial trucks consumed 749,674,500 gallons. The total then in Class 1 was 3,729,472,200 gallons.

Similar figures for Class 2 (1½ tons to 3 tons) showed an average consumption of .15 gallon per mile, with 359,013 private trucks each going 15,000 miles, and 58,443 commercial trucks with an av-

erage mileage of 22,000 miles. The total gasoline consumption for this group was 1,000,641,150 gallons.

Class 3 (over 3 tons) used .21 gallon per mile, had 195,825 private trucks averaging 18,000 miles, and 31,878 commercial trucks with an average of 26,000 miles; and consumed 914,272,380 gallons. The total for all trucks of all classes was 5,644,385,730 gallons.

The total gallonage for passenger cars, trucks, and buses for the year 1936, according to our estimates, is 20,800,000,000. Yet the total gallonage consumed in 1936, as estimated by the American Petroleum Institute, with the 10 per cent reduction for other than automotive uses, is only 18,200,000,000 gallons. Obviously an error exists. Superficial observation might lead one to believe the error lies in truck figures as it is these which have had the greatest increase since 1932. Yet if the passenger car and bus estimates are correct, only 3,000,000,000 gallons remain for trucks which is substantially less than the truck consumption for 1935. It is therefore apparent the figures for passenger cars and buses as well are a little high.

We have therefore reduced each set of estimates proportionately. The passenger car adjustment was made with the following in view: The increase since 1935 of the total number of cars, and the average annual miles traveled, has been offset to a great extent by the higher compression ratios and increased efficiency of the automobile engine of today, as well as lighter bodies and streamlining. This indicates the total gallonage for passenger cars increases slowly compared with trucks.

Increase of Trucks and Trucking

The adjusted truck figure, on the other hand, recognizes the increase of trucks and trucking on the highways. This trend is evidenced by the fact that in 1935, motor truck ton mileage was estimated to be but 1.9 per cent of railroad ton mileage, yet in 1929 had increased to 5.8 per cent, and by 1932 had reached 12.7 per cent, and in later years has increased beyond this point.

The adjusted bus figures recognize a similar increase in the number of buses. For example, bus production jumped from 4,210 in 1932 to 15,075 in 1935. Many street car companies have been changing over to buses, while routes have been extended, so that with buses, as with trucks, the increase in consumption from 1932 to 1936 has been more marked than that of passenger cars.

Another point to be borne in mind is that a reduction of one mile per gallon, say from 17 to 16 miles per gallon, would reduce the total gallons consumed by passenger cars by almost a billion. Likewise, an error of 2,000 miles in the federal coordinator's investigation of the average annual truck mileage in the class of trucks 1½ tons and less would vary the total truck consumption by more than 500,000,000 gallons.

With these facts in mind, we have reduced our figures. The reduced absolute figures thus become 12,700,000,000 gallons for passenger cars, 4,100,000,000 for trucks, and 1,400,000,000 for buses, totaling 18,200,000,000, or the American Petroleum Institute's estimate of total domestic cousumption reduced to allow for nonautomotive uses.

Footnotes

1. American Petroleum Industry, 1935. American Petroleum Institute.
2. Automotive Industries, Feb. 1937.
3. Report to Committee on Transportation of Yale University, 1933-34. Automotive Industries, Feb. 1937.
4. Consumers Research, March 1936.
5. Statistics from American Automobile Association, 1937.
6. Statistics from American Automobile Association, 1937.
7. A.A.A. estimates were close to 16.7.
8. Facts and Figures of the Automobile Industry.
9. Private Thesis, Harvard Business School, 1936.
10. Automotive Industries, Feb. 1937.
11. Derived from Bus Facts, 1936.
12. Automotive Industries, Feb. 1937.
13. Federal Coordinator of Transportation, 1935. Freight Traffic Report, Parts 1-3.
14. Federal Coordinator of Transportation, 1935. Freight Traffic Report, Parts 1-3.

Chemists Study Subject of Kinematic Viscosity

NEW YORK, July 3.—The report of committee D-2 on kinematic viscosity measurement of oils featured the work of interest to the oil industry discussed at the annual meeting of the American Society for Testing Materials held here this week. More than 2,000 engineers from all parts of the world and representing all industries registered for the sessions of the annual meeting held at Waldorf-Astoria Hotel.

The general study of the kinematic viscosity measurement of oils was supplemented with a paper by C. E. Headington and J. C. Geniesse of the research chemical division of Atlantic Refining Co. In addition to the committee D-2 report, petroleum technicians found interesting material presented in sessions devoted to bituminous materials, paint and related products, fatigue, effect of temperature, and general discussion of developments in metallurgy and corrosion.

Subcommittee five of committee D-2 has developed new proposed tentative methods of test for kinematic viscosity and a method for conversion of kinematic viscosity to Saybolt Universal viscosity. The trend of the petroleum industry toward the measurement of viscosity in kinematic units is developing a real need for reliable method for converting these viscosity units to Saybolt Universal seconds since it is apparent that the industry will continue to specify Saybolt seconds for some time to come.

Examination of five independently developed conversions available at the time the A.S.T.M. committee started work disclosed excellent agreement between four of them from 150 to 1,000 Saybolt Universal seconds (32 to 216 centistokes). At no point between 36 and 4,000 Saybolt seconds (3 to 864 centistokes) did they deviate by more than 2 per cent from the average of all five. With this procedure a table of average Saybolt equivalents for given kinematic viscosities was available as the basis for further check. Results of the experimental work is shown in the accompanying table: (1) On the determinations made by the cooperating laboratories, a new table of Saybolt equivalents for 100° F. was prepared as shown herewith; (2) details of the A.S.T.M. accepted methods of testing for kinematic viscosity were described under the designation D-37T.

Proposed tentative method for distillation of plant spray oils and for vapor pressure of petroleum products (Reid method) were outlined at the committee D-2 meeting. The proposed revised method for vapor pressure is in effect a consolidation of, and is intended to replace, the tentative method D-323-32T and D-417-35T.

Asphalts

E. S. Hillman and B. Barnett of Shell Development Co.'s research chemistry department, Emeryville, Calif., presented their findings on the characteristics of cracked and uncracked asphalts. Chemical evidence was supplied supporting the conclusion drawn from the rheological properties of cracked asphalts, that their greater degree of dispersion as compared with straightrun asphalt can be accounted for by the greater aromaticity of the maltenes. It was further shown that the components of low-level cracked asphalts have in all probability average molecular weights lower than that of the corresponding components in a straightrun residue. The chemical structure of asphaltenes was discussed, together with the probability that they consist of a combination of units composed of cyclic groups of probably no more than two or three rings condensed together.

In his study of constituents of asphaltic material versus accelerated weathering, R. R. Thurston, chemical engineer, technical division, Texas Co., said that addition of resins appears to aid weathering resistance of asphalts. This conclusion was based on findings using approximately 200° F. melting point asphalts prepared from Mexican, Gulf Coast and Mid-Continent crude and a cracked residue which were separated into asphaltenes, resins and oils. Preparation of synthetic asphalts by recombining these constituents in various proportions and from different sources was described. Results indicated an increased resistance to weathering when increased proporitions of resins were used, Mr. Thurston said. Rossiter M. McCrone, civil engineer, U. S. Division Engineer Office, New Orleans, La., and F. C. Field, chemist, the Asphalt Institute, New York, presented a joint work on the design of asphalt mixtures for underwater construction. R. N. Traxler of the Barber Co., Inc., and C. E. Coombs, of E. I. du Pont de Nemours & Co., were the authors of a study on "Development of Internal Structure in Asphalts with Time." The paper dealt with the increase in consistency of asphalts with time (age hardening) indicates the development of internal structure. This structure is developed more rapidly in air-blown than in steam or vacuum refined bitumens, the authors said.

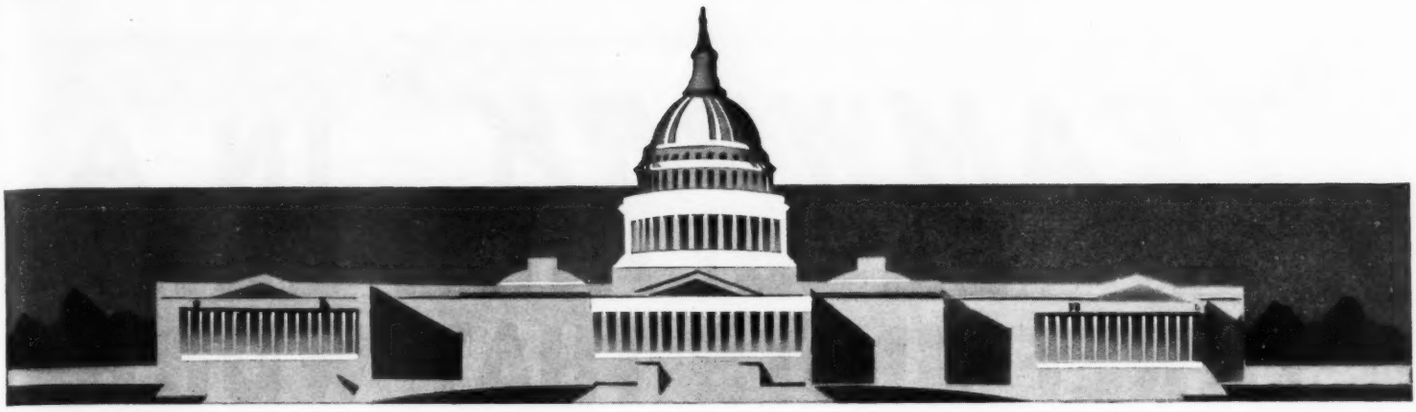
Roland Vokac of the Barber Co., also presented data and supporting evidence that various types of contemporary tests have been determined for their relative abilities to correlate with service behavior of mixtures observed in the field. The compression test was advanced as the most reliable for predicting the success or failure of an asphaltic surface. A review of the history of the use of asphaltic materials and a discussion of the current practice in designing and constructing foundations, asphalt surface treatments and asphalt pavements in western highway construction was presented by J. E. Buchanan of the Asphalt Institute.

Gear Lubricant

Effect of aeration on the temperature at which oils channel and a test for determining channeling qualities of a group of lubricants was described by J. P. Stewart, Socony-Vacuum Oil Co., Inc., Paulsboro, N. J. "One very important characteristic of a gear lubricant is the channeling temperature," Mr. Stewart said, "yet industry at large has had to depend upon service experience or upon tests in full-size axles.

"Channeling was found to be most severe at the lower speeds and most of the work was done at an axle speed equivalent to 20 m.p.h. car speed. It was found also that the temperature reached during operation had a profound effect upon distribution after rechilling, due to an air-oil emulsion which persisted during the rechilling period. Under such conditions channel temperatures varied between 20° F. below and 20° F. above the A.S.T.M. pourpoint."

The channeling test described by Mr. Stewart employs standard A.S.T.M. pourpoint equipment with the addition of a special stirring apparatus which reproduces the aerating action of the rotating axle gears.



Depletion Allowance Unlikely to Be Removed This Summer

By HENRY D. RALPH

WASHINGTON, July 5.—Congress will buckle down after the Independence Day holiday for what looks like a long, hard summer session of doubtful productivity and one which promises to be marked by bitter dissensions in the ranks of the majority party.

No legislation is expected changing the depletion allowance permitted oil producers by the present tax laws. While the treasury has cited the depletion allowance as one of the loopholes in the revenue structure, members of the joint senate-house committee on tax evasion and avoidance are not inclined to take up such a controversial subject at this time and decided to terminate public hearings without permitting treasury officials to discuss the depletion question. The subject is almost certain to come up again next winter, however, and probably will be a part of the administration's recommendations for a general revision of all tax laws which is scheduled to be ready for the consideration of congressional committees late this fall. Likewise the joint committee has indicated an unwillingness to discuss possible changes in the capital gains tax and the 1936 tax on undistributed corporation earnings.

Natural Gas Regulation

The Lea bill, providing federal regulation of interstate business in natural gas was passed by the house without a dissenting vote and now goes to the senate where its passage is expected to be equally smooth. Originally part of the controversial public utility holding company act of 1935, the Lea bill has been revised and modified so that the big gas companies did not oppose it, taking the position that since federal regulation of their business is inevitable this bill is as acceptable a measure as could be expected. The Lea bill contains provisions similar to those in other regulatory laws and permits the Federal Power Commission to regulate rates, values and practices of interstate gas pipe line companies in the same way that other utilities are regulated by state and federal commissions.

Gas companies may extend their lines at will except that the commission's permission will be needed to enter a municipality already served by another natural gas line. The commission, however, may be able to require interstate lines to supply gas to cities along their lines which are not now served. In addition to fixing city gate gas rates of interstate lines, one of the chief functions of the power commission under the Lea bill will be to place a valuation on pipe line companies for rate-making purposes and in doing this the commission will probably attempt to appraise the resources of the gas fields tapped by the big companies. Advocates of the measure predict that eventually it will save gas consumers many millions of dollars in lower rates.

The Tydings-Miller resale price maintenance bill received new life when the senate committee of the District of Columbia voted 8 to 1 to include it as an amendment to the pending tax bill for the district. This is the bill which would amend the Sherman antitrust act to permit the making of interstate contracts for the maintenance by retailers of prices of branded merchandise set by manufacturers where such contracts are legal in the states in which they would apply. The bill would apply to branded gasoline as well as to packaged merchandise, and 39 states now have laws permitting such contracts. The bill was pending on the calendars of both house and senate when President Roosevelt stopped all action with a letter to congressional leaders disapproving it on the ground that it might unduly raise prices to consumers.

In reporting the district tax bill, the senate committee eliminated a section approved by the house which would have imposed a chain-store tax applicable to filling stations, graduated upward on the basis of all stores owned in the United States, after the pattern of the Louisiana chain-store law.

The failure of the steel strike and the bitterness, violence and loss of work attendant on it caused important reactions in Washington which may be a forecast of a shift in the administration's attitude toward labor. The president's mild condemnation of union tactics was interpreted as meaning that his enthusiasm for John L. Lewis' C.I.O. campaign is cooling, and observers credit him with having his ear more closely attuned to public sentiment than has Secretary of Labor Perkins, who caused resentment in congress by stating that she saw no evidence that the C.I.O. is not a responsible agency and by suggesting that employers be forced to meet and bargain with union spokesmen.

Senator Vandenberg, of Michigan, introduced a series of amendments to the Wagnor labor relations act designed to remove many of the causes of current disputes. They would permit employers as well as unions to ask the N.L.R.B. to hold plant elections, would require that collective bargaining agreements be reduced to written contracts, would impose penalties on unions for breaking contracts, prevent strikes except on a majority vote of employes, prohibit coercing workers to join unions, and prevent unions from assessing members for political contributions. The reception given these proposals indicates the growth of a feeling that labor legislation should be impartial and not one-sided, such as the Wagner act admittedly is.

Compromise Is Expected

The president's plans for reorganizing the executive departments in a way which would greatly increase his own powers of control is also slated for a compromise. Senate Leader Robinson has drafted a bill which will probably be much further modified if it passes at all, which gives the president limited powers to shuffle existing bureaus among the cabinet departments but permits congress to veto these transfers. More important, the president would not be able to touch the independent quasi-legislative commissions such as the Interstate Commerce Commission and Federal Trade Commission, although a vital part of the president's proposal was that he be given control over their fiscal, personnel and administrative activities.

The Roosevelt-Norris proposal for setting up seven sisters to the T.V.A. in the guise of regional water resource planning authorities to promote the use of federally produced hydro-electric power is meeting objection from many sources, and to date the power industry has not publicly opposed the bill, a fact which has perplexed its sponsors who had planned on driving the bill through congress with the argument that it is an antipower trust measure. One of the principal opponents is the National Coal Association which pointed out that the development of cheap hydro-electric power through federal subsidies will ultimately ruin the market for coal used in the production of electricity, an argument which applies with equal force to electric generators now driven by fuel oil and natural gas.

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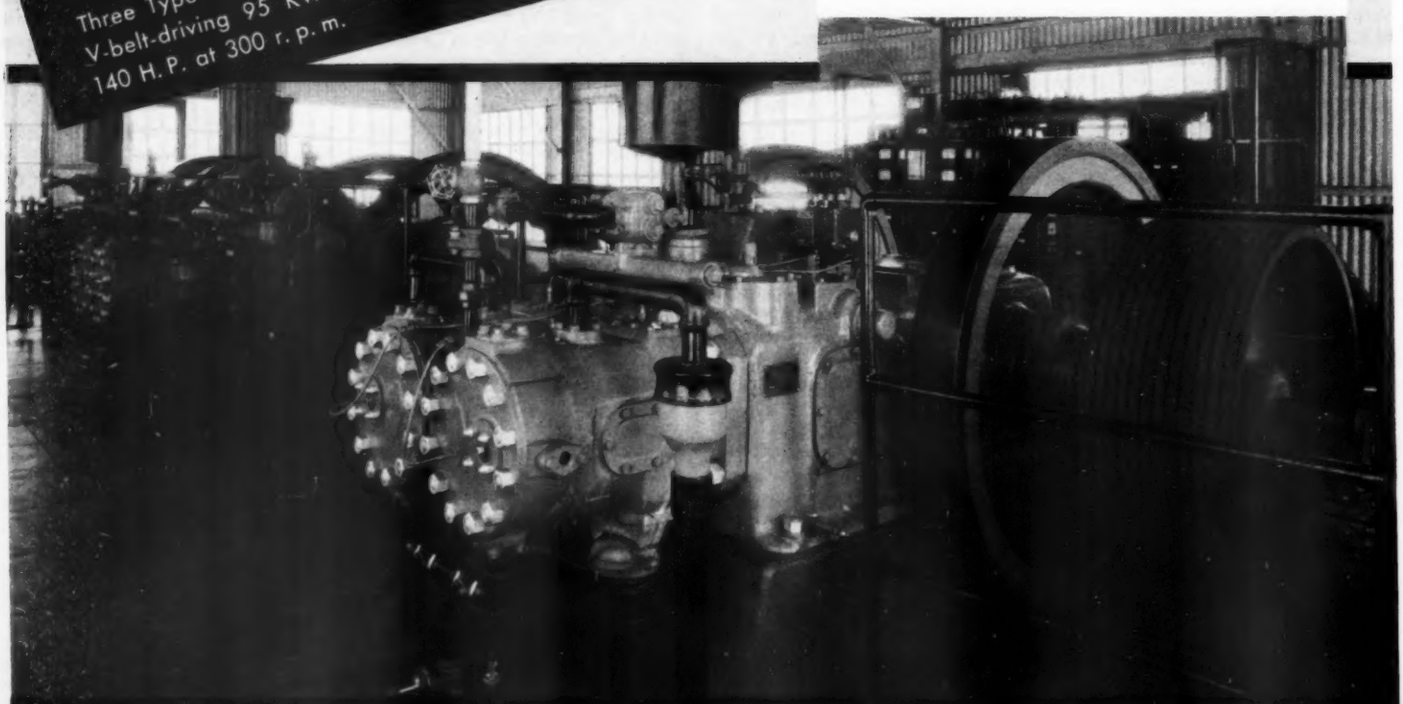

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Esperson Bldg., Houston, Texas

Company Defies Federal Board

HOUSTON, Tex.—The American Petroleum Co. has challenged a regional labor relations board order to cease fostering and maintaining a company union. T. J. Arnold, counsel for the concern, said the order would not be posted as directed in the Norsworthy refinery, where an oil union had charged coercion and intimidation of employes. Dr. Edwin A. Elliott, regional director for N.L.R.B., ordered the "cease and desist" notices placed on the refinery's bulletin boards. When informed of the company's refusal, Doctor Elliott said: "The seeking of the posting of these notices simply was my effort in a quiet way to secure compliance with the law. We will proceed formally in the case later if we find that formal procedure is warranted."

Oil Men's Jubilee Celebrated

LAREDO, Tex. — Laredo was host to oil men and oil workers of South Texas July 3 and 4 when the Oil Men's Jubilee was celebrated. Features were the coronation of King Petrol and Queen Ethyl, a barbecue, and carnival events, including dancing and floor shows. The Casa Blanca Country Club was converted into a typical boom oil town.

Big Compact Meeting Expected

Early reservations indicate a record attendance at the meeting of the Interstate Oil Compact Commission to be held in Santa Fe, N. M., July 12 and 13. Col. E. O. Thompson, chairman of the Texas Railroad Commission, has announced that important matters will be discussed. The governors of four oil states have indicated their intention to attend.

It is understood that the Bureau of Mines will make a partial report regarding the quality of the crude oil now in aboveground storage. The matter of the economic limits in reducing storage is scheduled for discussion.

Faces Costly Loss of Oil Rights

LOS ANGELES, Calif.—A campaign to protect the county's rights in the extraction of oil from the channel of the Los Angeles River from Wardlow Avenue in Long Beach to the ocean has been started by Supervisor Legg, chairman of the flood control committee of the board of supervisors. The county flood control district, which holds easements on the property involved, is faced with the loss of its oil rights, involving millions of dollars, because of recent action of the Long Beach voters in passing an initiative measure preventing the flood control district from drilling for oil in the channel of the river.

Depletion Upheld

Protests by oil companies against Washington criticism of depletion deductions from income tax payments were given point by a court awarding an oil company refunds from tax payments, involving depletion.

Judge Samuel H. West in federal district court at Toledo has awarded Ohio Oil Co. $910,730 in income and excess profits tax refunds plus interest and cost which may bring the total of $2,000,000. The suit was filed in 1930, asking refunds on payments from 1917 to 1929. The issue, won by the company, was whether taxes can be computed by decline in flow or by government production methods in obtaining depletion allowance.

THE MARKETS*

CRUDE OIL: *Some significance attached to the fact that a limited quantity of crude has been sold at Gulf Coast at prices which do not give the seller the posted field price plus full transportation and loading charges. This is in contrast to situation before recent East Texas price advances when the tanker quotations at Gulf Coast reflected a premium situation. Now believed that East Texas prices will recede to levels of other areas or latter will advance to East Texas posted schedule. Spot crude available in the Mid-Continent with prices generally steady. Several buyers continuing to run crude to storage, but increases less than a month ago.*

REFINERY: *Heavy gasoline shipments scheduled for first 15 days of July following record consumption of three-day holiday. Gasoline tankcar prices steady, with any pricecutting confined to third grades. Natural gasoline strong. While there has been seasonal decline in shipments, gas oils and distillates unchanged in price. More kerosene offered in Mid-Continent, with lower quotations on same grades.*

TANK-WAGON AND SERVICE STATION: *Retail gasoline price declines, generally of short duration, reported at several points. No general changes announced in any marketing area.*

FINANCIAL: *Oil stocks moved upward at end of week in strong recovery. Average of 30 stocks for week ending July 3: High, 40.75; low, 38.27; close, 40.58. Week ending July 26: High, 39.81; low, 38.55; close, 39.29.*

**Detailed information in Market Section.*

Mid-Continent Hires Sons

The Mid-Continent Petroleum Corp. has begun its summer clean-up program in which it employs sons of men working for the company. At present 108 young brick cleaners may be seen at work in the company's refinery located in West Tulsa, Okla. The employment of these boys is carried out on a typically business-like basis. One young man

Two of the vacation refinery workers

is credited with having cleaned more than 1,000 bricks in a single day.

While the program of summer clean-ups was inaugurated three years ago, it is expanded this year to include many more types of work than formerly and this year's work will probably account for more than 500,000 bricks to be reclaimed from the foundations of an obsolete battery of cracking units. The boys enjoy the work and are finding their vacation is being profitably spent.

New Aviation Outlets

Another link in the chain of constantly expanding gasoline consumption was forged when regular flying service with multimotored airliners was launched from America to Bermuda, a joint venture of Pan-American Airways and Imperial Flying Service.

Another projected enterprise is a joint undertaking of the French Line, steamship corporation, and Air-France, government supported aviation concern, in a new company, "Compagnie Air France Transatlantique," which is launching an intensive study of weather conditions, meterological observations on the North Atlantic, preparatory to survey flights at a later date by Air-France planes.

Want Taxes Reduced

SMACKOVER, Ark.—Sixty oil men and workers in the Union County oil area of southern Arkansas met here last week and adopted a resolution sponsored by the Union County Petroleum Industrial Committee that an effort be made to reduce the state gasoline tax 2 cents, and a resolution to congress, asking for the repeal of the federal tax on gasoline and lubricating oil.

To Drill in Gulf

Secretary of War Woodring has approved application of Humble Oil & Refining Co. to drill wells in the Gulf of Mexico. The company plans sinking of shafts 8 miles east of High Island, in Galveston County, approximately 1 mile from shore. Humble is the second company to receive permission to drill wells in the Gulf. Superior Oil Co. will drill near Cameron and Creole, La., 9 miles from Calcasieu Pass.

Peak in Truck Sales

Domestic retail sales of trucks during the first five months of this year have registered an increase of almost 6.5 per cent over the corresponding months of 1936. Total volume of retail sales, measured by registrations, in each month this year has shown an increase over the corresponding month of 1936, reaching the highest peak in the history of the industry in April.

Highest Taxes in History

AUSTIN, Tex.—Gasoline tax collections in June were the highest in Texas history. State Comptroller George H. Sheppard said they aggregated approximately $4,186,000 compared with the previous peak of $4,067,062 in August, 1936. With collections running more than 10 per cent higher than during the 1935-36 fiscal year, Sheppard estimated the total for the fiscal period ending next month would be considerably more than $46,000,000. Last year it was $41,193,162.

Mr. Sheppard pointed out that receipts through the first 10 months of the period were $4,605,856 greater than for the corresponding months in 1935-36. Those in June were $610,108 higher than in June, 1936.

OBITUARY

HERMAN MUHLHERR, 60, was killed July 3 in an automobile crash near Guthrie, Okla. He was tax consultant for the Warren Petroleum Co. and had been a resident of Tulsa for the past 30 years. He is survived by one brother.

Oil News from Foreign Lands

Royal Dutch Report

The aggressive expansion and maintenance program launched on its world-wide petroleum holdings in 1936 by the Royal Dutch Co. is being continued and extended this year. In several instances projects launched in 1936 are carrying over through all or a part of 1937. A wide range of activity is covered in the general program touching acquisition of prospective oil land, expansion of production, additions to transportation facilities and enlargement or modernization of refining installations.

Magnitude of the general program was revealed in the annual report of N. V. Koninklijke Nederlandsche Maatschappij tot Exploitatie Van Petroleumbronnen in Nederlandsch-Indie (Royal Dutch Co. for the Working of Petroleum Wells in the Netherlands Indies). In the report to shareholders, major phases of the building program were reviewed. Since the turn of the year, three new blocks of acreage in Sumatra have been assigned to the Royal Dutch interests for exploration. The recently granted concessions in Sumatra are known as the Atjeh complex, the West-Ogan block and the Kikim block. The new acreage is in addition to other blocks acquired for exploratory purposes in 1936, known as Amoentai and Sangatta. In announcing to shareholders the acquisition of additional blocks in the Netherlands Indies, the Royal Dutch Co. report stated that the need for new reserve areas is as acute as ever, since, notwithstanding prospecting for oil reserves was again energetically pursued during the year, no results of any consequences were attained.

The new Edeleanu solvent installation and cracking plant now under construction at Pladjoe will be commissioned during the current year. The company started operations last year on new pretopping units at Balik Papan and Pangkalan Brandan.

Capacity of the Djambi-Pladjoe pipe line was increased by the Royal Dutch Co. during 1936 by addition of an intermediate pumping station at Lilin.

Through participation to the extent of 40 per cent in the Netherlands New Guinea Petroleum Co., the Royal Dutch interests are continuing active exploration this year on 10,000,000 hectares obtained by agreement of May 23, 1935, with the Netherlands Indian government. Mapping of the area by aerial photography has been practically completed. Surface geological reconnaissance work has been carried out on the island of Salawati and of the Vogelkop. During the early part of 1937, a regional gravimetric survey of the entire area was completed. The Royal Dutch reported declining production in Rumania during the last half of 1936 and reviewed some of the factors involved. "The main reason for this situation is that, whilst the possibilities of acquiring petroleum concessions on private lands open for direct negotiations between the owners and the petroleum companies are virtually ended, the conditions which the Rumanian government has seen fit to impose upon the granting of state lands for exploration and exploitation give little encouragement to carry out any investigations.

"The exploration work which has been done during recent years has, therefore, been insufficient to discover new fields to take the place of those which will naturally become exhausted and activities have been confined to limited areas in the immediate neighborhood of already known oil regions."

The company's largest expansion program launched during 1936 and one which will continue through 1937 was at the refinery in Curacao where a total of 7,024,355 tons of crude was processed last year, compared to 6,702,894 metric tons in 1935. Measures were taken in Curacao to replace obsolete refinery equipment, to reorganize shipping installations and to increase storage capacity. The fleet of tankers serving the Curacao refinery crude requirements was increased by addition of three vessels and three more are under construction for delivery in 1938 which will replace tankers to be retired.

During 1936 the Royal Dutch interests produced a total of 28,172,570 metric tons of crude of which more than 7,000,000 tons came from the United States. The group's production by countries for 1936 and the preceding year is listed below by countries.

Country—	Metric tons— 1936	1935
Netherlands East Indies	4,374,058	4,271,401
Sarawak	229,612	261,188
Seria (Brunei)	473,729	467,934
Egypt	177,491	176,436
Rumania	1,659,083	1,540,117
Mexico	3,643,210	3,148,456
Venezuela:		
Caribbean	2,265,733	2,275,696
V.O.C.	5,785,529	5,496,557
Colon	635,492	697,194
Trinidad	196,946	191,204
United States:		
Shell Petroleum Corp.	3,894,390	3,799,120
Shell Oil Co.	3,457,692	3,041,240
Argentina	505,943	453,975
Iraq	873,662	799,501
Total	28,172,570	26,620,019

A metric ton averages about 7.33 bbls.

End of Oil Strike Seems Near

PORT-OF-SPAIN, Trinidad.—A number of employes in Trinidad's oil fields returned to their jobs today as Governor Sir A. G. M. Fletcher's mediation committee pushed efforts to settle wage and hour disputes. Settlement of the strikes was believed near after a long conference between the committee and representatives of the strikers. Agreement was reached on most of the issues. Strike riots caused 14 deaths in the last two weeks.

Drilling in Poland

Need for a greatly accelerated drilling program in Poland, if that European country is to maintain its position in production, is emphasized in a recently completed report covering 1936 operations. Despite an increase in drilling activity in 1936, another reduction in crude oil production was incurred by Poland, although the decrease last year was not so great as in 1935 compared to 1934. During the last quarter of 1936, the Boryslaw field was particularly hard hit when yield dropped to 66,290 metric tons, compared to 106,390 tons for the same period in 1935.

The overall reduction of 25,220 tons in 1936 to a total for the year of 489,540 tons would have been greater but for minor increases in the Jaslo and Stanislawow fields.

The Jaslo field's increase of 7,810 metric tons for 1936 is 7.7 per cent above production for 1935 while the Stanislawow gain of 17,000 tons is about 48 per cent. Loss of 50,030 tons during 1936 in Boryslaw production is a drop of about 13.1 per cent.

At the end of 1936, Poland had approximately 3,600 wells of which 3,180 are on the active production list.

Domestic consumption in Poland increased slightly during 1936, due to the greater number of automotive units in service. There was a slight reduction in exports. Danzig and Gdynia are both points at which extensive bunkering is carried out. Czechoslovakia, however, is the largest consumer of Polish petroleum exports.

Refinery in Bangkok

The Siamese Ministry of Defense has awarded a contract to the Mitsui Bussan Kaisha for construction of an oil refinery in the southern suburb of Bangkok, known as Klong Toi and in the area reserved for the harbor development program. The refinery is to have capacity of 500 bbls. of charging stock per day, including a cracking unit and other modern equipment for production of high-octane aviation gasoline. The contract price is understood to be around $337,500 and construction is to be started in the fall. It is understood the Japanese naval attache was instrumental in clinching the contract and that the plant is drawn to Japanese navy specifications as to layout and products.

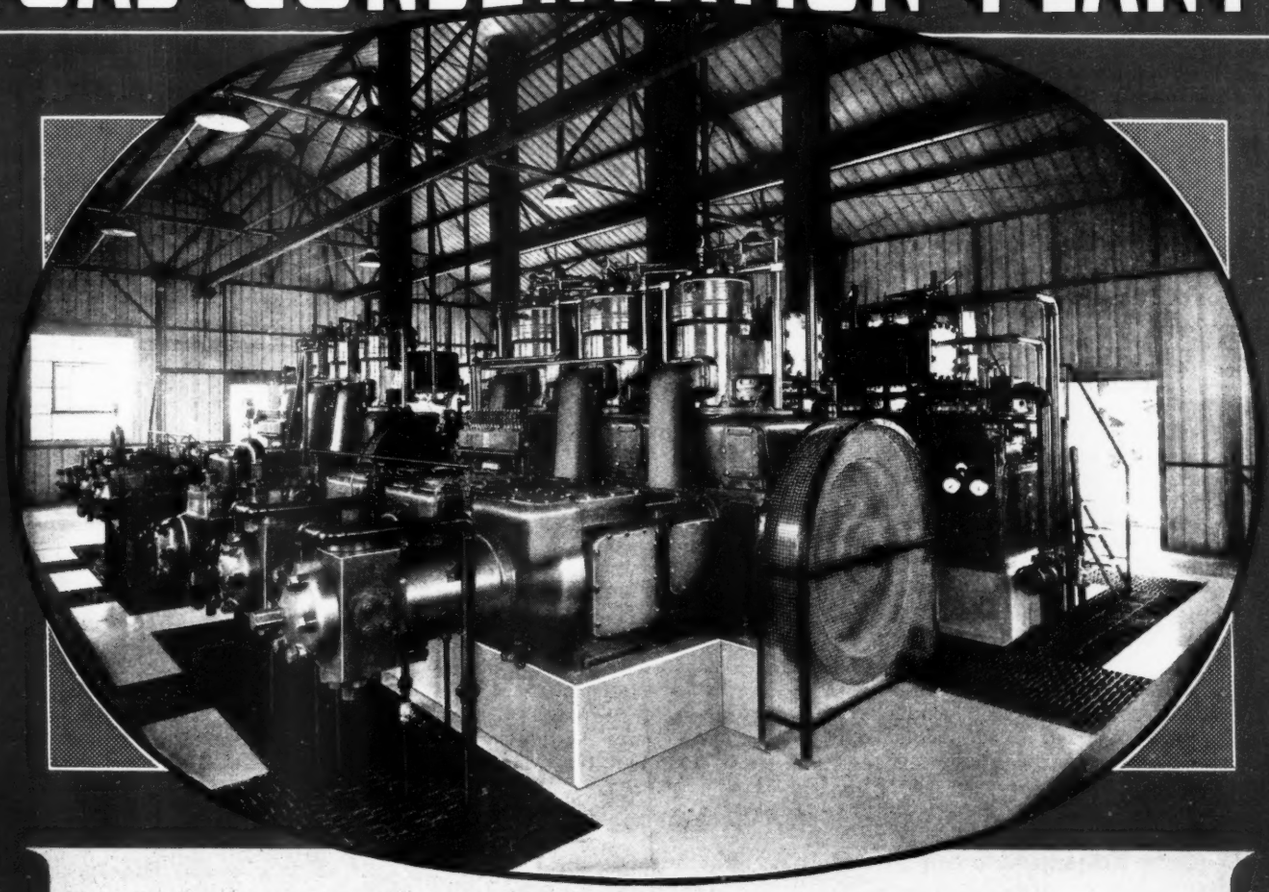
Production Near Budapest

Five oil wells producing from around 950 feet have been completed during the past few months at Bokkazek in the Bukk Hills, northeast of Budapest, according to reports reaching this country. Details of production quantity are lacking, but information indicates that it is capable of supplying 15 per cent of the Hungarian requirements.

Anglo Iranian Oil Co. photo

Anglo Iranian tanker discharging at Swansea

WORLD'S HIGHEST PRESSURE GAS CONSERVATION PLANT



This pressure maintenance plant of the Continental Oil Company, at Tepetate, Louisiana, contains 4 CLARK 300-H.P. "Super-2-Angle" Compressors delivering 2,000,000 cu. ft. of gas a day each, from 350 pounds suction pressure, 3,600 pounds discharge pressure. Units have been operated at maximum pressure of 4,600 pounds.

Write for Complete Description of this Plant

CLARK BROS. COMPANY . . . . Olean, New York, U.S.A.

Export Office: 30 Rockefeller Plaza, New York. Midcontinent Sales Offices and Warehouses: Tulsa, Okla., and Houston, Texas. West Coast Office: Smith-Booth-Usher, 2001 Santa Fe Ave., Los Angeles, Cal. Foreign Offices: 72 Turnmill St., E. C. 1; London, England; 4 Str. General Poetas, Bucharest, Roumania.

CLARK

Refinery Expansion

Contract Near Completion

NEW YORK, July 6.—Crude oil topping units, which were somewhat neglected in the general refinery construction program last year, are currently receiving much attention if judged from design work now in progress. Three new topping units with total capacity of 53,500 bbls. of crude per day are now on drafting boards. Two of the new units representing 23,500 bbls. of the capacity are to be constructed abroad.

In addition to the two foreign units now under contract, one at Aruba and one in Mexico, another large unit is being considered for construction in France, but the contract has not been definitely awarded.

Through subsidiaries, the Standard Oil Co. of New Jersey has awarded a contract for a 16,000-bbl. topping unit to be built at its refinery on the island of Aruba. The unit is conventional in design with four side streams specified. Alco Products, Inc., holds this contract.

Compania Mexican de Petroleo "El Aguila" S.A., the Royal Dutch-Shell operating subsidiary in Mexico, has contracted to build a 30,000-bbl-per-day distillation unit in Mexico. The Lummus Co. has been awarded this contract.

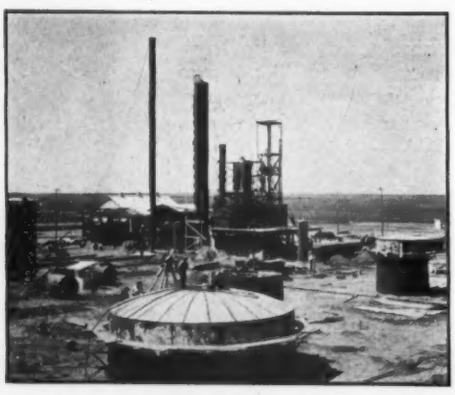
Adding to its previous construction program which is just starting, Argentina Government Oilfields has arranged to include a propane plant for production of approximately 400 bbls. of propane daily. Part of the equipment for the Argentina company's complete new refinery is en route and the remaining portion will be shipped soon. Most of the material was purchased in this country through Alco Products Co.

Lion May Enlarge

Lion Oil Refining Co. has been making a survey of its refining facilities in its El Dorado, Ark., plant to ascertain whether it will be more economical to enlarge parts of its present equipment or install new units to effect a general enlargement of the refinery's crude capacity. The enlargement program is being made contingent upon developing some additional sales outlet also.

Lion's favorable position with respect to crude supplies from the new Schuler field is influencing the expansion program.

New Western Kansas Refinery



Construction scene of Shallow Water Refining Co.'s new 1,500-bbl. refinery now in the final stages of completion. The plant, located 3 miles south of Shallow Water, Scott County, Kansas, will manufacture road oils principally, using 24- to 26-gravity crude oils as charging stock. Engineering work was carried on under supervision of Winkler-Koch Engineering Co., with D. M. Dryden and John Allison, both of McPherson, Kans., financing the project.

Reconditioning Work Completed

SHREVEPORT, La.—Reconditioning work has been completed and operations resumed on General American Refining Co.'s Gladewater plant in the East Texas field. The company owns over 200 wells in the field, while its associate company, the Bell-General Pipe Line Co., has more than 700 well connections in the field. Initial runs to this remodeled refinery will be about 3,500 bbls. daily. Capacity is 5,000 bbls. daily.

Richfield to Add New Units

LOS ANGELES, Calif.—A modernization program involving an expenditure of approximately $5,000,000 is being started by Richfield Oil Corp. with the receiving of bids for new work to be done at its Watson, Calif., refinery. Daily capacity of the plant will be increased some 25 per cent by the addition of two combination units, each to have a crude charging capacity of 30,000 bbls. daily, and a polymerization unit of 6,000,000 feet daily gas capacity. Plans call for completion of the new units within the next 12 months.

Reopen California Refinery

LOS ANGELES, Calif.—Petrol Corp., operator of a 6,500-bbl. skimming and asphalt plant here, has taken over operation of the 3,500-bbl. plant formerly operated by the Fletcher Oil Co. The refinery, which is located near the Petrol plant on Bandini Boulevard, has been inactive for more than a year.

Another California plant to be reopened is the old Shepherd and Pendleton refinery in Seal Beach. The plant has been taken over by Ring Oil Co., an independent producing company, and will be operated to produce gasoline, gas oil and fuel oil.

Buys Griswold Refinery

Freeman Burford, president of the East Texas Refining Co., has exercised an option taken several weeks ago to purchase the 2,500-bbl. refinery north of Rodessa, La., formerly operated by the Griswold Refining Co.

Mr. Burford has developed oil production in the area near the plant and expects to revamp portions of the refinery and will enlarge it to run this oil. The plant has been idle for several months.

Natural Gas News

Intangible Assessments Hearing

AUSTIN, Tex.—Intangible values placed upon Texas oil pipe lines appeared headed for the courts as hearings on the state tax board's tentative valuations neared completion.

The preliminary assessments against pipe lines totaled $95,073,000, compared with final assessments of $51,005,000 in 1936. The increase on rail roads was even greater, for the tentative assessments of $90,737,200 were compared with $30,964,500 as finally approved last year.

On completion of the hearings, in which pipe lines and railroads are contending for much lower valuations, the board will make final assessments and distribute the valuations among counties to go on local ad valorem tax rolls.

A suit is pending in the appellate courts attacking the intangible assets law with regard to oil pipe lines. A group of oil companies is attempting to carry the appeal to the U. S. Supreme Court.

The largest intangible valuation placed on any pipe line was $17,356,000 on the Humble Pipe Line Co. The final 1936 assessment was $11,095,000. All others showed increases, some of greater percentage than with the Humble.

Frank Brewster Chosen President

PITTSBURGH, Pa.—Frank M. Brewster, Belmont Quadrangle Drilling Corp., Bradford, was elected president of the Pennsylvania Natural Gas Men's Association at the association's annual meeting last week. He succeeds H. D. Freeland of Waynesburg.

W. H. Locke, vice president, United Natural Gas Co., Oil City, was reelected vice president of the association and B. H. Smyers, Jr., was reelected secretary-treasurer.

Members of the board of directors are: G. E. Bennett, president, Manufacturers Light & Heat Co., Pittsburgh; H. D. Freeland, Waynesburg; T. B. Gregory, president, Union Heat & Light Co., Emlenton; S. W. Meals, president, Carnegie Natural Gas Co., Pittsburgh; F. R. Phillips, president, Philadelphia Co., Pittsburgh; T. W. Phillips, Jr., president, T. W. Phillips Gas & Oil Co., Butler; S. C. Preston, vice president, and J. F. Robinson, president, Peoples Natural Gas Co., Pittsburgh; F. F. Schauer, vice president, Equitable Gas Co., Pittsburgh; George E. Welker, president, United Natural Gas Co., Oil City, and George Wittmer, Jr., president, American Natural Gas Co., Pittsburgh.

Plans for Piping Gas Halted

HARRISBURG, Pa.—The Harrisburg Gas Co. announced that the Columbia Gas & Electric Co. had abandoned plans, for this year at least, to pipe natural gas into eastern Pennsylvania. The Harrisburg company's announcement said that "because of the failure of the Pennsylvania Gas Transmission Corp. to obtain a charter from the state it becomes impossible to fulfill its hope to furnish natural gas this year and furthermore the outlook for the future in this regard is not encouraging." Companies which sought commission approval to substitute natural for artificial gas in addition to the Harrisburg concern were the Consumers Gas Co., Berks County; the Chester County Light & Power Co.; the Allentown-Bethlehem Gas Co. and the Lebanon Valley Gas Co., of Lebanon.

Subject to State Regulation

LITTLE ROCK, Ark.—The Arkansas Supreme Court held that the Arkansas-Louisiana Gas Co. was not engaged in interstate commerce in the sale of gas originating in Louisiana to pipe line customers in Arkansas and that such sales were subject to regulation by the State Utilities Commission.

This decision reversed a Pulaski County (Little Rock) Circuit Court ruling upholding the gas com-

pany's contention that it was engaged in interstate commerce and its pipe line sales were not to be regulated by the State Utilities Commission.

"The conception to be drawn from the course of the appellee's business," said the Supreme Court, "is that it has developed a practical system whereby, if let alone, more than half its sales in Arkansas will escape regulation by the state, while at the same time the physical facilities of the state, its resources, its laws and its police protection are invoked in furtherance of its needs."

J. Merrick Moore, attorney for the Arkansas-Louisiana Gas Co., said it was probable an appeal would be taken to the U. S. Supreme Court.

Pipe Line Work

Shell Expanding Facilities

The Shell Pipe Line Co. has awarded a pipe contract and is completing other plans which will result in its pipe line facilities from Cushing, Okla., to St. Louis, Mo., being expanded so that they will consist of two 10-inch main trunk lines. The present system consists of a 10-inch line with numerous loops.

The expansion program calls for the laying of 75 miles of 10-inch connecting the present loops. This will do away with the looping system of operation and provide the two 10-inch lines. This will increase the capacity of the system several thousand barrels daily. A contract for the pipe has been let to the A. O. Smith Corp., totaling 8,000 tons.

The present pipe line of the Shell company connects to fields in Texas, Oklahoma and Kansas and delivers crude to the refineries of the Shell Petroleum Corp. in Arkansas City, Kans., Wood River, Ill., and East Chicago, Ind.

Gulf Line Completed

The Gulf Pipe Line Co. has completed laying a 6-inch extension from its Rodessa gathering system into the newly opened area in the Arkansas portion of the field, about 5 miles east of McCoy, La.

Increasing Storage Capacity

An expansion program which will enlarge storage facilities one-third is well under way at the Harbor Island, Tex., terminals of the Atlantic Pipe Line Co. and the Humble Pipe Line Co. Humble is erecting three 80,000-bbl. and two 101,000-bbl. tanks. Atlantic is adding 55,000 bbls. to its capacity. The total of both terminals will approach 1,650,000 bbls. when the construction is completed next month.

Pipe Line Interests Sold

KILGORE, Tex.—J. C. Potter of Corpus Christi announced here that he had purchased the interests of F. W. Fischer of Tyler and Tom Potter of Kilgore in the Potter Pipe Line Co., Inc., operating in the three Saxet fields of Nueces County. The Potter Pipe Line Co. owns the terminal and storage company at Corpus Christi. The pipe line is the second largest independent gathering system in the Corpus area.

Pipe Line Approved

TILLSONBURG, Ontario, July 5.—Following a public hearing by Eric W. Cross, chairman of the Ontario Municipal Board, the application of the Otter Valley Pipe Line Co. to lay a pipe line to deliver sulfur gas for industrial plants in Tillsonburg and Straffordville has been approved. The gas will be piped from wells south of the Eden field in Elgin and Norfolk counties.

Natural Gasoline

New C.N.G.A. President

J. C. Burks, vice president and manager of O. C. Field Gasoline Corp., is the newly elected president of the California Natural Gasoline Association, succeeding R. D. Gibbs of Union Oil Co. Burks graduated in chemical engineering in 1923 from the California Institute of Technology. For several years he has managed the gasoline operations of his company at Huntington Beach, and its oil producing and refining interests in the Santa Maria valley.

J. C. BURKS

H. R. Linhoff, manager of operations for Signal Hill Gasoline Co., has been appointed vice president of the association.

California Gasoline Production

Natural gasoline production in California during May decreased 1,000 bbls. daily to a total of 39,000 bbls. daily and refinery utilization decreased 5,000 bbls. daily to a total of 28,000 bbls. daily, according to a report prepared by the Bureau of Mines. Stocks of natural totaled 2,571,000 bbls. at the end of the month; 192,000 bbls. higher than those of the previous month and 437,000 bbls. higher than at the end of May, 1937.

Daily average production of liquefied petroleum gases decreased from 2,198 bbls. to 1,718 bbls., of which 419 bbls. were produced at refineries in May. Daily average sales decreased from 2,263 bbls. to 1,896 bbls. Still gas production during the month amounted to 2,327,925,000 cubic feet, equivalent on a B.t.u. basis to 633,455 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS, MAY, 1937

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gals.)
San Joaquin Valley:		
Elk Hills	63,379	124,478
Kettleman Hills	9,488,418	14,436,698
Midway-Sunset	1,286,623	2,434,659
Mountain View	805,635	910,790
Miscellaneous	3,215,954	2,067,799
Coastal Region:		
Elwood	723,183	1,037,714
Rincon	122,258	201,601
Santa Maria	147,872	403,220
Ventura Avenue	3,153,331	4,273,796
Miscellaneous	467,439	389,468
Los Angeles Basin:		
Brea-Olinda Coyote	645,351	1,890,783
Dominguez	1,332,814	2,177,527
Huntington Beach	1,538,010	3,813,859
Inglewood	310,814	415,035
Long Beach	1,734,111	7,631,283
Playa del Rey	354,714	1,214,041
Richfield	222,980	464,965
Rosecrans	363,391	556,810
Santa Fe Springs	2,320,284	5,131,583
Seal Beach	513,158	714,579
Torrance	107,931	241,964
Miscellaneous	431,392	743,036
Total (all fields)	29,349,042	51,275,588

DISTRIBUTION

	Gallons	Gallons
Stocks beginning of month	2,221,208	
Production during month	51,275,588	
Delivered to refineries		50,209,382
Delivered to jobbers, brokers or blenders		826,296
Blended at plants for production of motor fuel		13,082
Losses		89,245
Stocks end of month		2,358,791
Totals	53,496,796	53,496,796

			Bbls.
Liquefied petroleum gas production	1,691,579	=	40,276
Motor fuel produced	19,995	=	476

Water Shipments in Arkansas

EL DORADO, Ark.—For the first time in the history of the oil industry in Arkansas, refined petroleum products are being shipped by water. The service has been inaugurated by Lion Oil Refining Co. with the shipment from its terminal at Champagnolle on the Ouachita River of 9,000 bbls. of gasoline, loaded on two steel barges destined for Memphis, Tenn. Lubricating oils and asphalt are to be shipped to these areas in the same manner. The gasoline, piped from the Lion refinery in El Dorado, will be distributed throughout Mississippi and Tennessee. President T. H. Barton said the company expected to effect a saving in shipping costs by this method of transportation. The round trip by barge will require about 25 days.

Meteors as Source of Oil

DENVER, Colo. — Meteors which struck the earth millions of years ago are helping to supply the oil that drives today's automobiles, according to two scientists before the Society for Research on Meteorites, meeting here. Dr. John D. Boon and Dr. Claude C. Albritton, Jr., of Southern Methodist University, said cheap gasoline would be unavailable if these projectiles had not created "bubbles" in which oil and natural gas later accumulated in large pools. Meteors may weigh from a few pounds to many tons, they pointed out, and when a large one struck the earth it penetrated into the earth before exploding. Some of these explosions blew surrounding rock to small fragments, while others depressed the rock below and raised it above to create a vast cavern or dome, which acted like a well for the later accumulation of gas and oil. Most meteors never reach the earth as meteorites, and "shooting stars" are just jaywalkers in the path of the earth.

Fraud Indictments Returned

SHREVEPORT, La. — The federal grand jury here returned 38 indictments in its investigation of gasoline fraud charges in which 53 bills of information against persons and firms in five southern states were filed by U. S. District Attorney Harvey G. Fields here. The registry and shipment of gasoline for other substances to evade taxes was alleged by Mr. Fields. Identity of defendants in the indictment returned was not disclosed.

Which Is Solvent and Which Is Solute in Two-Phase Process?

By JOHN W. POOLE
Petroleum Chemist

In this, the second article to appear on the subject of "Theories and Practices of Solvent Refining" the author offers a better understanding of the characteristics of so-called "solutions" of oils and solvents. The first article appeared on page 59, issue May 6, 1937.

The experience of years has been such that the author is inclined to regret the general practice of regarding, as actual solutions "solutions" comprising two nonionized liquid components such as many organic substances.

There seems to be no just and adverse criticism which can be directed toward those who adhere to the conventional attitude, so in deference to common usage, and wishing to stress a certain fact, the author likewise conforms.

The well defined characteristics of common inorganic solutions, such as table salt and water are so very different from the characteristics of "solutions" of typical organic liquids, that a definition so broad as to include both types tends toward confusion and is likely to be destructive of accurate analysis of situations. A descriptive and rather noncommittal terminology such as "miscible liquids" or "partially miscible liquids" is felt to be preferable. While in some ways inadequate, this method of description is less likely to imply characteristics similar to those possessed by a material comprising table salt dissolved in water.

One reason for this attitude comes from the fact that it is frequently impossible to decide which liquid should be termed "solvent" and which should be termed "solute." In most two-phase systems it is necessary under one set of conditions to decide that liquid "*A*" is the solvent" and liquid "*B*" the "solute"; under another set of conditions which may differ from the first only with respect to the relative proportions of *A* and *B*, conditions will be reversed and *B* will become the "solvent" and *A* the "solute." These two conditions may exist simultaneously, in fact, they must be concurrent in effective "solvent attractions." Further complications are attendant upon still other conditions. A rule frequently used to determine which are solvents and which are solutes is: The solvent is that liquid which exists at the greater concentration in the phase in question.[1] However, the rule is not productive of clarity. Cases arise with nearly all pairs of liquids, where both of the two coexisting phases will comprise more than 50 per cent of one component. Figure 1A is a second phase diagram, also hypothetical, yet perfectly consistent with common experience. Here, within the temperature limit shown the entire two-phase area lies to the right of 50-50 proportions of *A* and *B*.

To illustrate let us assume that we start at temperature *T* with a container containing pure *B*; (the extreme left, *B* = 100 per cent). If a small amount of *A* is added, say 1 per cent, the diagram shows that such an amount will completely merge with *B*, and it might be said that we have a 1 per cent solution of *A* in *B*. Maintaining the temperature constant at *T*, we may continue to add quantities of *A*, increasing the concentration of *A* "dissolved" in *B*, yet no evidence of saturation would appear before we arrived at point *a*. The material would then comprise about twice as much "solute" as "solvent."

On the other hand, suppose we had started at the right with pure *A* as the solvent; adding and mixing the "solute *B*" could continue until point *b* was reached. And since the concentration of "the solute" at saturation is relatively small, it would appear consistent to regard everything to the right of *b* as "solutions of *B* in *A*"; by elimination it is therefore perfectly logical to conversely consider everything to the left of *a* as "solutions of *A* in *B*." This method of analysis, only satisfactorily made by actual reference to diagrams like Figures 1 and 1A, is the nearest possible approach to reasonable consistency if systems comprising two liquid components are to be regarded as solutions. It *is* the standard used by the average chemist skilled in this field, and used properly results in clarity. Actually it is based—less on a terminology or rules which can be stated in words alone—than on description by phase diagrams. In conjunction with its use experience shows that the following precepts always must be kept in mind:

1. No conclusion as to which is "solute" and which is "solvent" may be drawn solely from the relative proportions of two liquid components which exist in a phase.
2. "Solvent," "solute" and "solution" are not such according to the conventional meaning of the terms.
3. The conception is not valid above the critical solution temperature, in fact, is of questionable validity at any time unless two or more phases are present.

The third of the above reservations

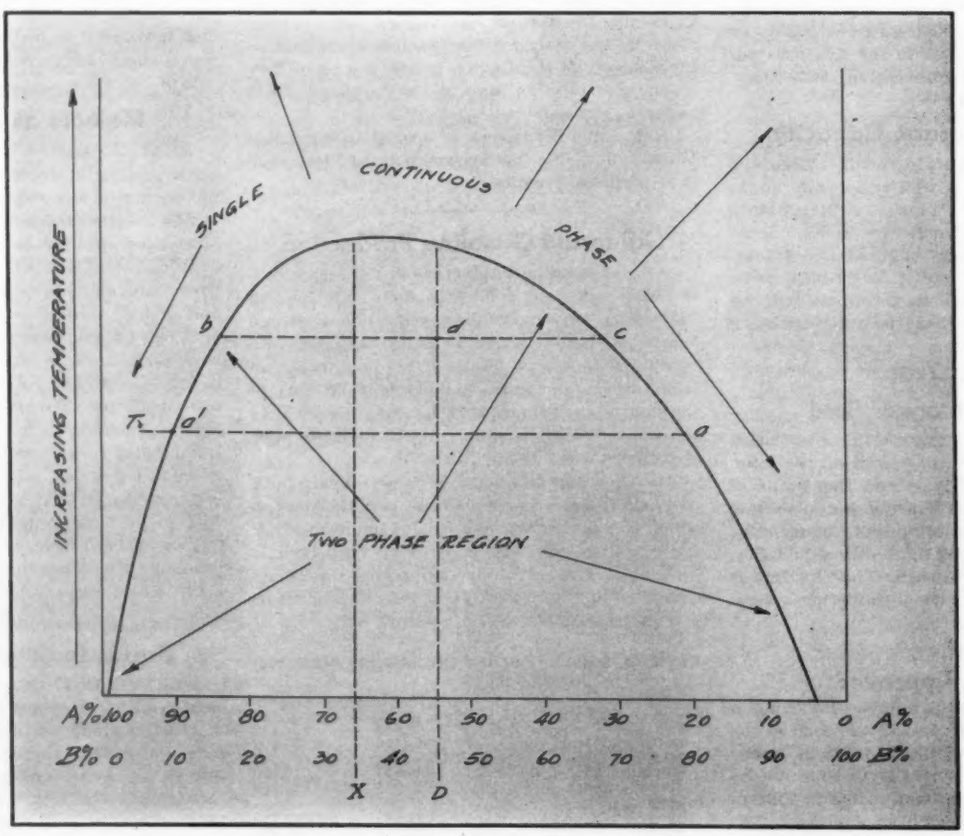


Fig. 1—Generalized phase diagram for hypothetical partially miscible liquids

would therefore appear to warrant amplification.

By reference to either Figure 1 or 1A, it will become evident that at any temperature above that of "critical solution," no combination of components *A* and *B* will result in what might be termed "saturation." Starting either with pure *A* or pure *B*, and maintaining the temperature constant, addition of the other component will not result in the formation of a second phase and any composition of this phase can be provided through approach from either end. In light of facts previously discussed, it is obvious that designation of either liquid as "the solvent" would be arbitrary and largely meaningless.

Furthermore, if by chance the limits of the two-phase region, including the critical temperature, are unknown such classification would still be arbitrary and at the best it could be considered as only a guess.

To be sure if the critical solution temperature is known, there is of course a certain plausibility in designating any single phase to the left of the "critical solution composition," shown in Figure 1A as a vertical line, as a solution of *A* in *B*; and vice versa for any phase on the right. Nevertheless, consistent or otherwise, this too is a purely arbitrary stand, difficult to defend by philosophy. Similarly to designate any point outside of the two-phase region as indicating the existence of a specific solvent and an equally specific solute is of doubtful expediency, particularly if at some time a legal point should depend upon it.

For example, suppose we have a solution of *A* and *B*, which is differentially above the critical solution temperature and differentially to the left of the critical solution composition. Theoretically it is possible to move to the right of this composition by adding an infinitesimal amount of *A*, and, by so doing produce a theoretical phase inversion. Since no true criticality is involved, the position—that a change so slight as to produce no determinable differences does change the system to a completely different form—is practically indefensible.

Furthermore, since by a method, illustrated by continuously adding tiny increments of *A* to a system which began as pure *B*—say at point *c*, far below the critical temperature, *Tc*,—it is possible to change the system to one composed almost entirely of *A*, at the same temperature, with two phases, at no time coexisting. All that is necessary to effect this is judicious application and removal of heat, so that the path could be represented by some such line as *c-d*.

Avoiding Ambiguity

The unusual stress which the writer has given the matter of visualization and terminology of two-phase systems, originates from two causes. First, for those who are interested in research and development work on solvent extraction a thorough understanding of all the aspects of the two-phase system is essential.

In addition, while rather loose use of terms may not be particularly destructive in the thinking of those who are thoroughly familiar with peculiarities of the subject, such use in patent applications and the like can render a document obscure and incapable of defense. The author has a very pertment case in mind, in which a situation arose, which was a complete analogy to what is possible with the imperfectly miscible systems exemplified by Figures 1 and 1A. A cracking infringement suit was successfully defended, thereby in effect invalidating a patent which depended on the interpretation of ambiguous designation of phases. If the specifications had described the invention by use of a liquid-vapor phase diagram all ambiguity easily could have been avoided.

For our purposes at least it is safe to consider diagrams of the nature here shown, as being applicable to all binary systems, both members of which can be maintained by any means, such as pressure, in an unquestionably liquid state. With apparently immiscible substances, each of the two points fall on the ordinate passing through the respective origins, 0 per cent *A* and 0 per cent *B*.

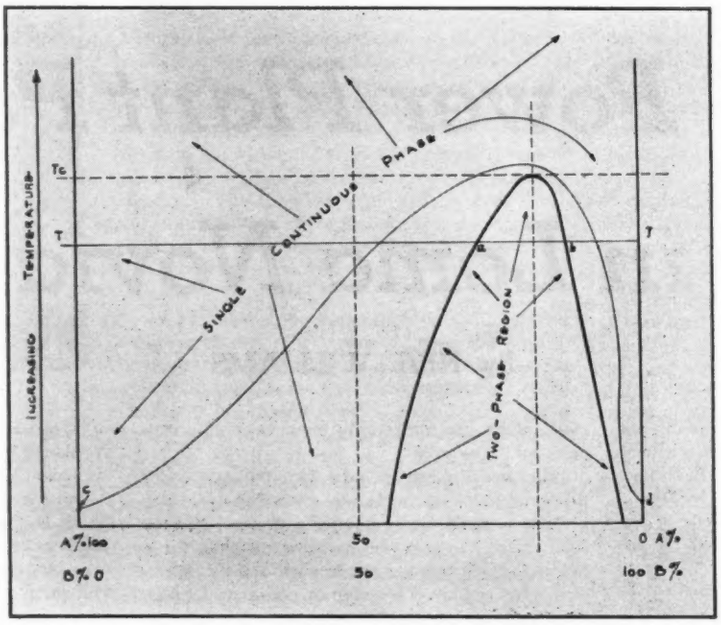


Fig. 1a—Hypothetical phase diagram

Nevertheless, if the temperature is sufficiently elevated mutual miscibility may be expected to develop and eventually a closed curve delineating the two-phase region will result. Always assuming, of course, that changes in the physical or chemical nature of the substance do not first set in. There is every reason to suppose that no pair of liquids will ever be discovered which will fail to form such a diagram, except those which are prevented by the circumstance given. The diagram is completely universal.

Similarly any two substances which appear miscible in all proportions may be considered as existing at temperature conditions greater than the so-called "critical" so that if temperatures are made progressively lower the diagram eventually may be traced, again subject to the proviso relative to physical or chemical changes of either substance.

Such changes as may tend to prevent the tracing of an adequate phase diagram or to render it meaningless in the present discussion are evaporation, solidification, chemical reaction, decomposition, and, as stated in the previous section, a tendency for one or both of the components to deviate from "incompressibility." A radical change in the magnitude of dv/dp is likely to induce astonishing behavior.

A study of such behaviors may eventually lead to great advances in the art of extraction, but at present the solvent characteristics of highly compressible fluids have been too little investigated to enter the present art. All that we are at present concerned with are nonreactive substances existing in such form as would without question be considered liquid.

Distribution Between Phases

Due to the fact, that upon occasion both components of a binary liquid system may perform both as solvent and solute, certain precautions are necessary in calculating the distribution after increasing the amount of either component.

It is easy to forget that an excess of the presumed solute will result in a decrease in volume of the arbitrarily designated solvent phase. A portion of the solvent, dissolving in the solute, reduces the amount of solvent available to dissolve the solute, which thereby is precipitated to join the solute phase, and carry with it as much solvent as is necessary to saturate the precipitated solute. Even for rough calculation these complex relationships may not be safely neglected.

In light of the above, it might appear that the effect of adding a quantity of one of the substances would necessitate a complicated method of calculation. Actually, calculations are extremely simple if approached on the proper basis. Knowledge of the amount of each substance which will saturate the other, and the total quantity of each component is all that is necessary. The simple manner in which this knowledge may be determined has already been described; or provided with the phase diagram can be obtained therefrom.

The simple algebra required is as follows:

A represents the total weight of the component.

B represents the total weight of the second.

P_1 = weight of the first phase.

P_2 = weight of the second phase.

a = weight fraction of the first component in the first phase at the specified temperature *T*.

a' = weight fraction of the *same* component in the second phase at the same temperature.

By difference, the weight fractions of the second component in the respective phases must be: In the first phase, 1-a and in the second phase, 1-a'.

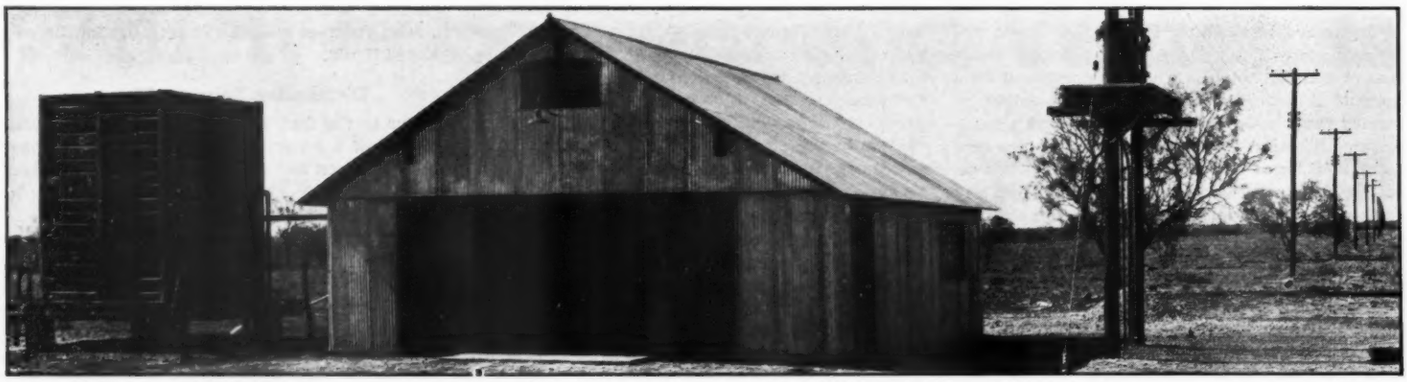
Since the weight of either component in the first phase plus the weight of the same component in the second phase must equal the total weight of that component, it is possible to write the two following equations:

$$aP_1 + a'P_2 = A$$
$$(1-a)P_1 + (1-a')P_2 = B$$

If, for example, $A = 500$ pounds, $B = 250$ pounds, $a = 0.20$ and $a' = 0.90$, substituting in the above equations would give the following solutions: $P_2 = 500$ pounds, $P_1 = 250$ pounds. P_2 will consist of 450 pounds of the first component and 50 pounds of the second. P_1 will consist of 50 pounds of the first and 200 pounds of the second.

If the system is augmented by the addition of a quantity of either of the two substances, the simplest way to determine the nature of the change is to repeat the above calculation using the new totals for *A* and *B*, and merely compare results. Negative results indicate the existence of one phase only.

[1]This rule is equally weak whether interpreted on a weight or on a molal basis. Certain low molecular-weight liquids, of a type suitable as dewaxing solvents, can be added to one-fifth as much (by weight) of high molecular weight oils before a second, or solvent, phase will appear. Nevertheless further addition of solvent will eventually produce saturation.



Exterior of electric power generating plant

Central Power Plant Pumping Wells in Loma Novia Field

By NEIL WILLIAMS

A central generating plant supplying electric power for pumping wells has been placed in operation in the Loma Novia field, near Freer, Duval County, Southwest Texas, by Hamill & Smith, independent oil operators. Four leases, representing 38 wells, are being served by the plant and ample reserve capacity is available to take care of additional wells by extensions to the power distribution system.

Installation of the power plant solves a problem faced by these operators in attempting to provide the most adaptable and efficient method of pumping their wells. Consideration of the various factors led to the conclusion that electric power would be the most desirable means of lifting oil under the circumstances. Purchased power was not available as the nearest power line was 28 miles distant, so it was decided to put in the privately owned generating plant.

Use of central powers with rod hook-ups was not considered applicable. Four such installations would have been required. And, at the same time the leases and positions of the wells were such that the operation of such installations would have been difficult. In view of the light pumping requirements of the fields, individual gas-engine driven units for 38 wells would have involved a moderately large expenditure.

Pumping at Loma Novia requires only about 2 hp. load. Production is comparatively shallow coming from a sand at 2,600 feet, and the fluid level is fairly high. Under proration with small per well allowables, it is necessary to produce the wells only for short periods, and in the majority of instances only a little agitation is required.

The power plant includes two 140-hp. Cooper-Bessemer, 12½x15 horizontal twin two-cycle convertible engines, each driving a General Electric 105 kva., 85 kw. at .8 power factor, 480 volt, three-phase 60-cycle a.c. generator with a 2 kw. direct connected exciter. The engines run at 300 r.p.m., with natural gas from the leases being used as fuel. The consumption is rated at 13 cubic feet per horsepower hour. The engines are fitted with special Pickering governors, which control both gas and air, and with special, heavy flywheels for a.c. generator service, parallel operation. Each has a Norma-Hoffman outboard bearing with a 5-inch outboard shaft extension on which is mounted a flat belt wheel for the V flat-belt drive to the generator. The engines also are equipped for starting on compressed air, the air starting system consisting of a gasoline engine-driven air starting compressor, compressed air storage tank, and the automatic cam-controlled air-starting valve built into the main engines. Starting air under a pressure of approximately 150 pounds per square inch is furnished by the auxiliary compressor unit.

Jacket water for the engines is circulated by a 2-inch centrifugal water-pump for each engine. The pump is driven from a V-belt sheave mounted on the flywheel hub on the side opposite the main drive, the drive consisting of two B-section V-belts. The pumps take suction from the cooling tower basin, circulate the water through the engine jackets and thence to cooler in which the water is cooled and recirculated.

The generators are equipped with amortisseur windings for parallel operation and are mounted on adjustable base plates. Although equipped for parallel operation, one unit is adequate to carry the load of the wells now included in the system.

On the switchboard are two generator panels and one feeder panel. Each of the generator panels has an oil circuit-breaker with a.c. voltmeter, indicating wattmeter, synchronizing indicator for parallel operation of the two generators. The feeder panel consists of four feeder-circuit switches which control various outgoing lines.

Interior of Hamill & Smith's electric power generating plant, Loma Novia field of Texas

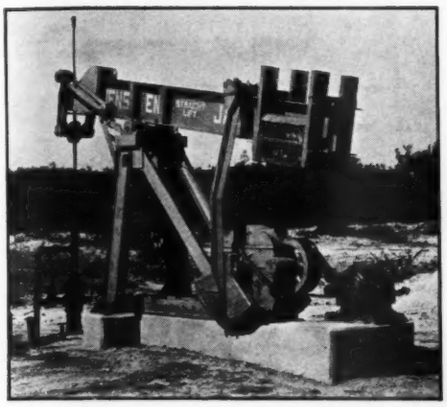
The station is located near the center of the Mary C. Hubbard lease and serves 10 wells on the north half of this lease on one circuit, the remaining 10 wells on the south half of the lease on another circuit, and 4 wells on the adjoining C. W. Hahl "A" lease on a third circuit. These secondary circuits take power at 440 volts direct from the station.

A fourth circuit leads to two transformers where the voltage is stepped-up from 440 to 2,300 volts for the two primary lines; one to

the Hahl "C," where there are 10 wells, and one to the Hahl "D" lease, on which are four wells. At the terminus of each of the primary lines transformer stations are located at which the voltage is stepped back down to 440 volts for distribution to the wells on each of these respective leases.

The primary line to the Hahl "C" lease is approximately 9,500 feet long and the line to the Hahl "D" lease about 8,500 feet long. Thirty-foot, creosoted pine poles with cross-arm-type construction are used on these lines. For the secondary lines, 25-foot creosoted pine poles with three-spool secondary racks are used.

Each of the pumping units consists of a jack-powered with a 5-hp. high slip, splash-proof motor.



Electric motor driven pumping unit used on the properties

Each unit is mounted on a concrete base. Motor controls are installed on the pole adjacent the well. The motor-control switches have thermal overloads, which will disconnect the motor from the line in the event of an overload. Three lightning arresters are installed at each motor.

May Extend Power Lines

Flexibility is provided in that additional leases can be added to the system by the extension of power line where needed. At the same time the various circuits can be cut in and out as desired by switches at the central plant. As the wells usually are produced only for short periods, the production of leases can be rotated so that it is not necessary to generate power for all the circuits at the same time.

Contract for turn-key job to include the installation of the power plant, the distribution system and the pumping-unit equipment was given the Houston Oil Field Material Co., Inc. The designing, engineering and construction work was sublet to H. A. Millar & Co. electrical engineers and contractors, who were assisted by Cooper-Bessemer Corp. and other equipment manufacturers.

New Mexico School of Mines Issues Geology Bulletin

The New Mexico School of Mines has just issued Bulletin No. 14 on "Some New Mexico Fusulinidae" edited by C. E. Needham after he had spent some time in the various parts of New Mexico collecting about 58 specimens from which 200 thin sections were made and the report covers the work on those sections. The bulletin will be of interest to geologists and paleontologists in the study of rocks of Pennsylvanian and Permian age. Copies of this bulletin may be secured from New Mexico School of Mines, Socorro, N. Mex., for 50 cents each.

Richfield Provides Automatic Safety System in Bulk Plants

By T. P. SANDERS

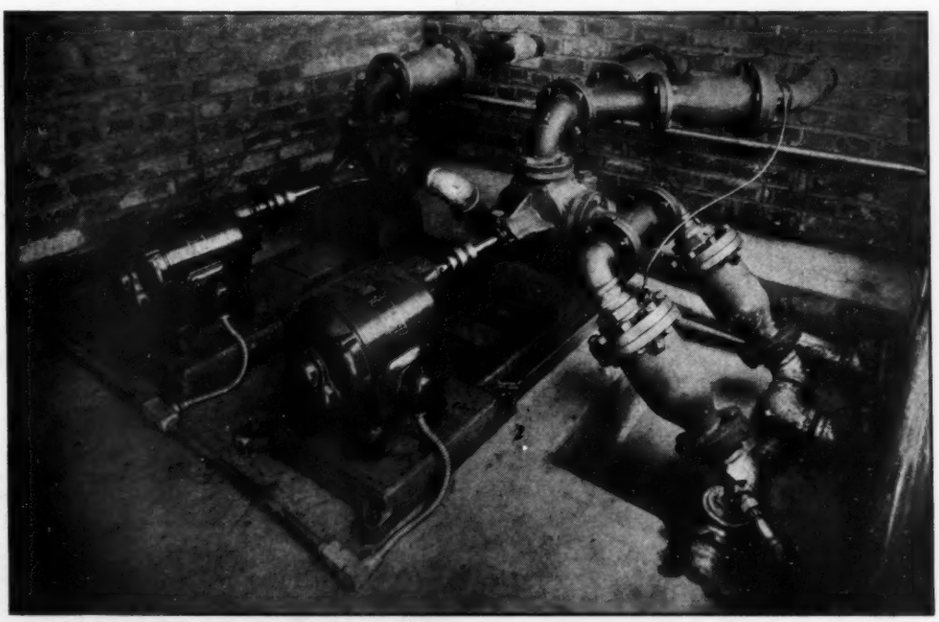
In the interest of safety, Richfield Oil Co. recently designed an automatic control system for dispensing of gasoline at bulk stations. The design, as used at a new station at Colusa, Calif., provides for automatic shut off of gasoline storage tanks in case of fire; permits greater convenience in everyday operations; and reduces the necessary investment in pumps and motors. These desirable features have been obtained through the use of internal hydraulic valves which are operated remotely by pressure transmitted through oil-filled copper tubing from a small hand-operated pressure pump. This system has been in use for several years on large gasoline trucks to prevent escape of gasoline from pipe connections broken in highway accidents. The adoption of the system to bulk stations makes use of hydraulic-pressure operated switches on the pumping motors, with the result that both pumps and valves can be controlled from the loading platform.

In its normal position an internal hydraulic valve is closed. The hydraulic pressure applied through the oil-filled tubes opposes a spring to open the valve. If a fire should occur in the station while loading is in progress, fusible plugs in the copper tubing lines will melt out to release the hydraulic pressure closing all valves and shutting down pump motors. The storage tanks, of course, are buried, and the hydraulic valves are in the tank outlets, so that when these are closed little danger from fire remains. Excessive pressure in the pipe lines and pumps due to vaporization of gasoline is relieved automatically by the spring-loaded hydraulic valves, which permit the expanding vapors to force their way back into the storage tanks against the force exerted by the springs.

The hand-operated control pump is located on the loading platform. Three lines of copper tubing run from this, each to control the flow of one of the three grades of gasoline in the storage tanks. The position of a dial attached to the pressure pump determined to which of the lines the pressure will be applied. The attendant turns the dial to the grade of gasoline desired and pulls down the handle of the pump to the open the proper valves and start the proper motor for pumping. When the handle is down the dial is locked, so that the grades of gasoline cannot be mixed. This feature has made it possible at the Colusa station to use only two pumps instead of three for handling three grades of gasoline. The two better grades pass through the same pump, the remote control system making it impossible for both storage tanks to be opened at the same time. One pump could be used for all three grades if it were not for the fact that after delivery of the Number 3 grade enough of this commodity remains to a pump to slightly discolor the better gasoline.

The pumps used in the Colusa station are automatic variable-stroke pumps. After one of these is turned on, flow does not begin until the attendant pulls the cord to open the loading valve at the end of the discharge pipe. In the meantime there is no churning of liquid in the pump, since the stroke is zero. This feature makes for convenience in filling and topping a tank truck from the running board. The remote control feature for turning the pump-driving electric motors on and off is an additional safety feature. Electrical switches are unnecessary on or near the loading platform.

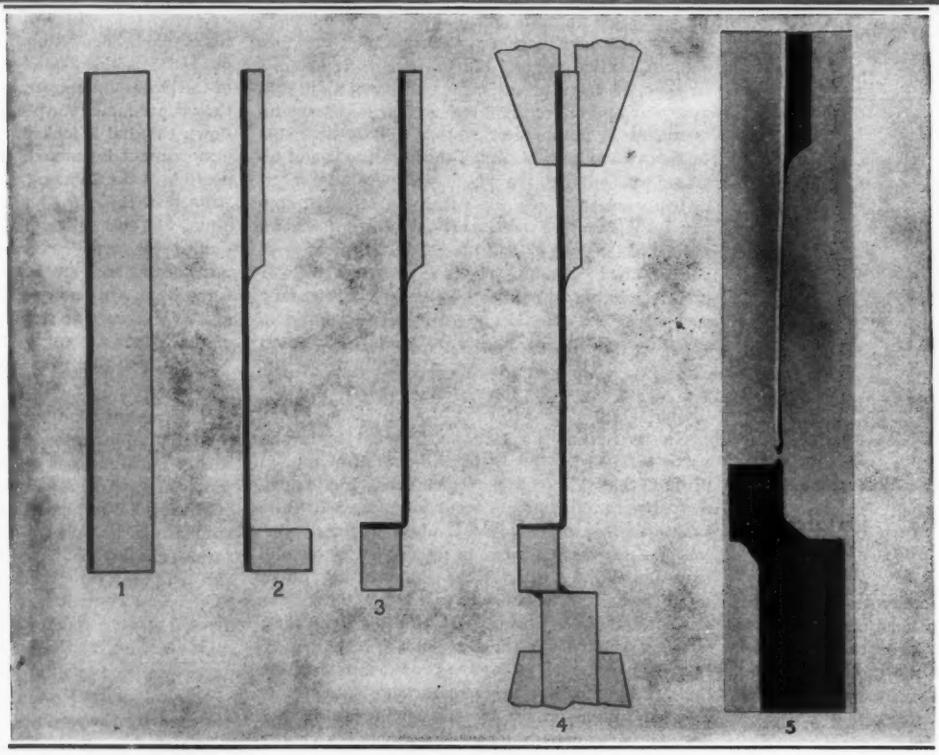
The safety system in the Colusa bulk station was designed by the engineering department of Richfield's marketing division. Its application to other bulk stations is expected in the near future. It is believed that remote control of valves and pumps will be of equal value in gasoline plants and at other points where large quantities of gasoline are handled in the routine of plant operations.



Variable-stroke pumps in gasoline service at Colusa, Calif., bulk stations of Richfield Oil Co. Hydraulic valves inside swaged housings in lines are operated from loading platform

KELCALOY

Integrally Bonded Plates



PRESSURE VESSELS FABRICATED FROM KELCALOY Integrally Bonded Plates Offer Refiners The Greatest Known Protection Against CORROSION

TEARING TEST

A bar was cut from a large Kelcaloy plate 2 in. thick (Fig. 1). The carbon steel was machined away as shown in Fig. 2, leaving a tab which was then turned down as shown in Fig. 3. A grip was welded to this tab so as to enable the pulling of this specimen in a tensile machine (see Fig. 4). Failure took place in pure shear in the solid alloy, no tearing being evident at the interface between the alloy and the carbon steel base (see Fig. 5). Clear proof that while the alloy itself *can* be fractured it cannot be torn away from its carbon steel base. (Test conducted at Room Temperature.)

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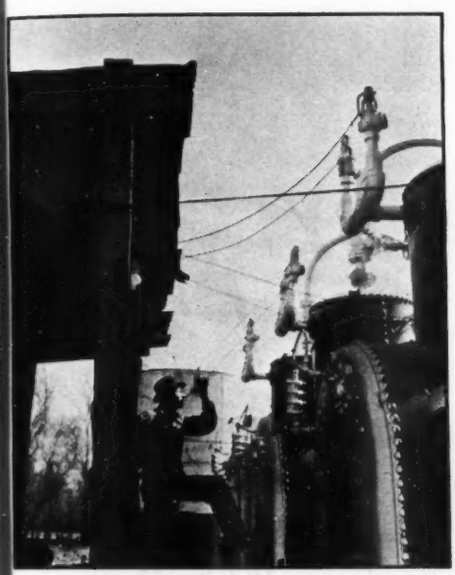
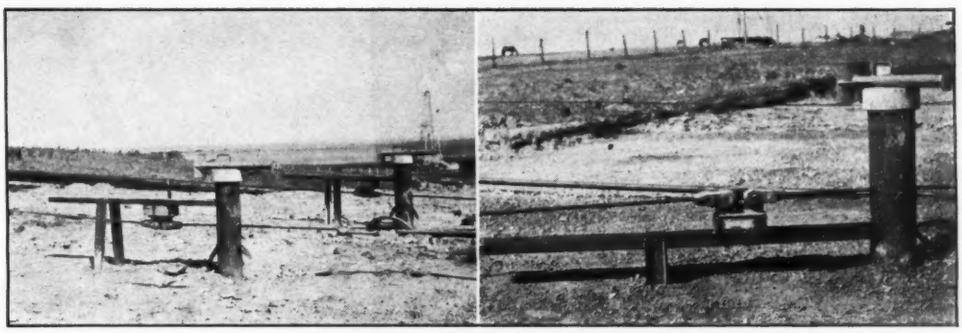
OPERATING IDEAS

Cord on Relief Valve

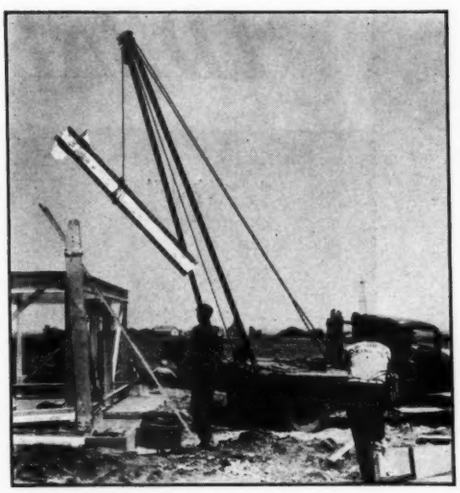


A large oil company which operates many strings of rotary tools, requires its boiler man to open the relief valve on each boiler once each shift. Each valve is fitted with a conveniently located pull cord. This eliminates any chance of the valve sticking, when pressure increases to a dangerous point.



Channel Irons Serve Double Purpose on Rod Line

Several pumping powers in the Olympic pool of Oklahoma are equipped with 4-inch channel irons as rod holdup and holddown slips giving a perfect guide for the pull rods. A hickory block fastened to the rod coupling travels in the channel, this is lubricated with a heavy grease. The channels are welded to the guide post which is an 8-inch pipe set in concrete.

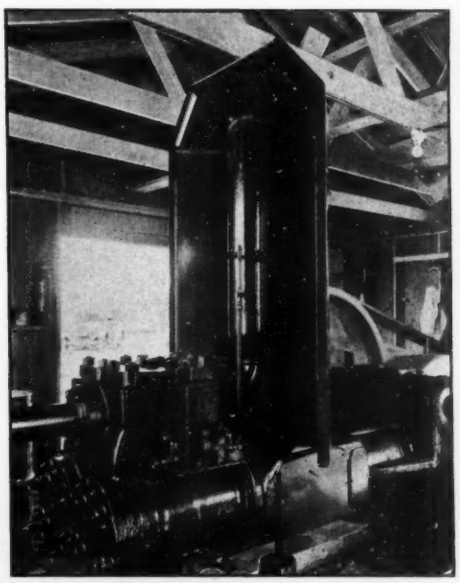


Handling Derrick Members

The erection of the heavy steel superstructure for the modern steel rig is greatly facilitated by the use of the heavy duty crane hoist as shown in the accompanying picture. The truck not only furnishes a means of placing the steel members but is also used to transport the steel from the place where it was dumped on location to the derrick.

Walkway Erected Over Pump Rods

In the Olympic pool near Wewoka, Okla., many of the leases are being pumped with central powers. One company pumping 16 wells with a geared crank type power, found it difficult for the pumper to service his power with the pull rods so close together. There is as much as a 2-foot side swing to some of the rods when they are pumping, making it dangerous to try to step over them. Therefore, to overcome this condition and give added safety the operators built a walkway over the pull rods with a safety rail encircling the entire power.



Fire Shield on Pump

A pipe line company operating a gathering pump driven by a gas engine housed in one room, has a metal shield on the piston end of the pump to guard against oil spraying on engine in case a gasket should blow out. This gathering station is located in the Hauschild pool, Rice County, near Sterling, Kans.

6 WORLD RECORDS MADE ON THE ELENDER NO. 1

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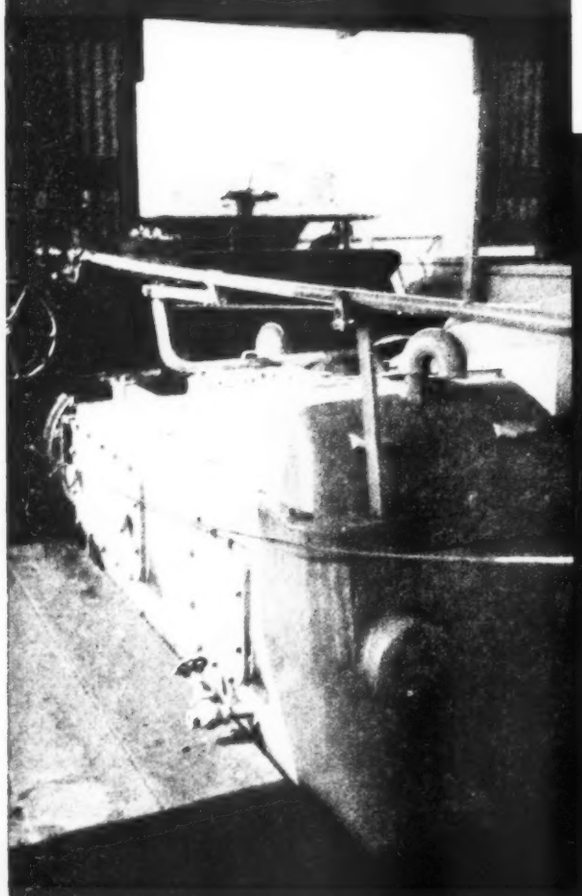

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Typical stub rig used for reconditioning purposes at Rodessa. Note the one boiler and combination drawworks and pump hook-up

Improved Completion Methods Cut Gas-Oil Ratio in Rodessa

By MITCHELL TUCKER

Both preventative and remedial measures are now being employed in the Rodessa oil and gas field of Louisiana and Texas to reduce excessive gas-oil ratios. This subject is one of greatest concern to operators in that field today, as any well producing with a ratio exceeding 2,000 cubic feet of gas to one barrel of oil suffers a cut in allowable under the present gas limit factor included in the Rodessa allowable formula. Several companies have materially increased their daily oil allowables by efficient remedial work of one type or another to reduce the ratios.

The use of the gas limit factor in the actual allocation of per-well allowables has been applied for the first time in this field by both Louisiana and Texas. It does not actually cause a reduction in the ratio of gas to oil itself, but does create a strong inducement to operators to take immediate remedial or initial preventative steps to insure a ratio of not greater than 2,000 to 1. This type of proration serves to eliminate gas wastage by cutting oil allowables, with a decrease in the gas withdrawals.

Hence, the greater the gas-oil ratio on state test, the smaller the daily allowable, and any successful remedial work to reduce the ratio will be quickly paid out by increased allowables.

It is clearly more desirable to complete wells initially so that a minimum ratio will obtain than to suffer a cut in daily allowable during flush stages of production, and later undertake remedial work as the ratios increase. Therefore, all advanced methods of selective well completioning are being practiced here so that maximum allowables will be granted.

Structural position and manner of well completion in the multiple producing zone are the two causes for widely differing ratios throughout the field, and even from well to well.

The oil and gas bearing formations dip sharply from south to north off the faulted anticlinal structure. Gas and oil saturation is found in four main and three stray or flank zones in the Lower Glen Rose throughout about 250 feet. The two main upper zones, Hill and Gloyd, carry gas only. The Dees-Young zones carry gas in the upper portion and oil below. Wells high on the structure in the southern part of the field produce nothing but gas; those located along the gas-oil contact line produce gas, distillate, and some oil, and it is here that the highest ratio wells occur. Those wells low structurally in the northern portion of the field produce oil and gas in varying quantities according to manner of well completion.

The citation of several offsetting wells having widely differing ratios will serve to indicate that the manner

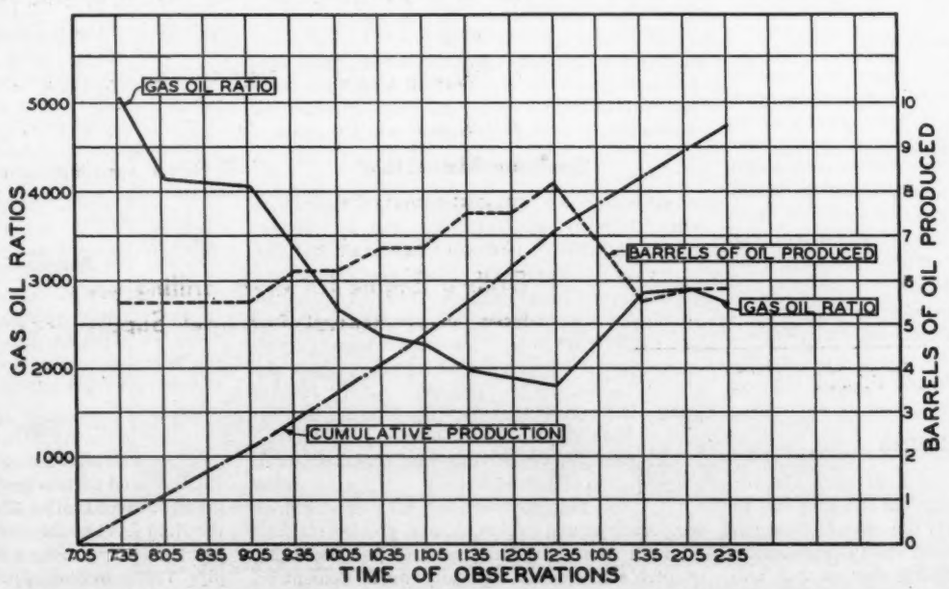


Fig. No. 2, showing most efficient rates of flow through macaroni tubing string installation as shown in Fig. No. 1

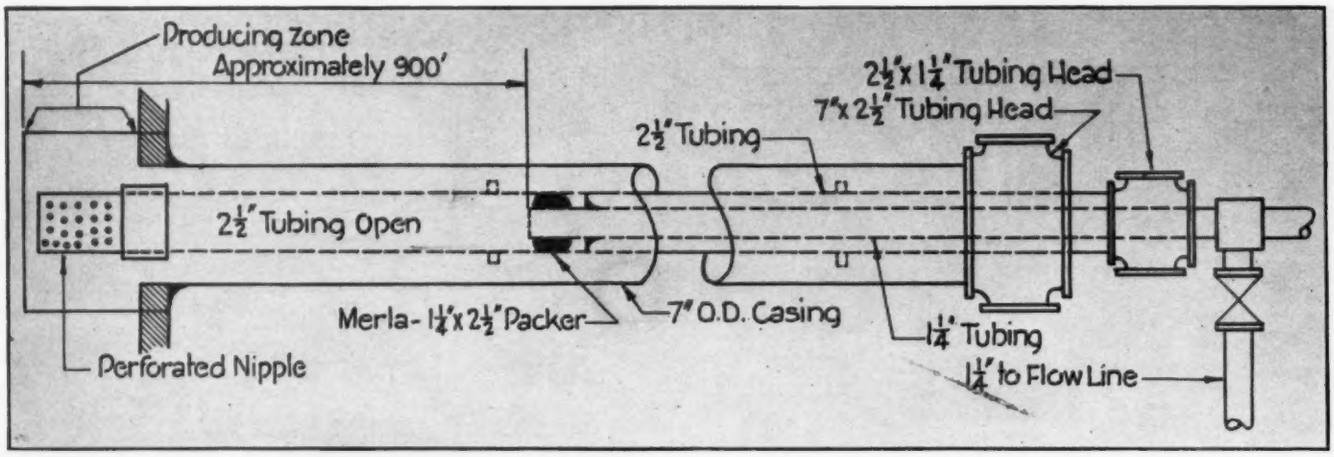


Fig. 1—Macaroni tubing string installation at Rodessa for reduction of gas-oil ratios. Other installations hang small tubing in casing

of well completion is all important in obtaining the minimum ratio. In section 8-23n-15w, Louisiana, No. 1 well has a ratio of 2,996 cubic feet per barrel, while No. 2 exhibits a ratio of 39,062 to 1 on state test. In section 14-23n-16w on a lease having 17 wells, nine wells have a ratio below the limit factor of 2000 to 1, four wells between 2,000 and 5,000 cubic feet per barrel, and four wells from 5,000 to 15,000 to 1.

Great accuracy and efficiency is being obtained in the conventional manner of selective well completioning where the multiple producing zone is electrically surveyed, casing set and cemented on bottom, and gun perforated opposite points of most attractive oil saturation where a minimum amount of gas will be given access to the well bore.

Testing Drill Cores

Careful boring, logging, and laboratory testing of physical properties of cores throughout the entire producing section has been an important item in excessive ratio preventative work. Certain companies pioneering this work are using home canning devices on the rig for the preservation of cores from the time they are brought out of the well until they are transported to a distant laboratory for analysis. A representative portion or portions of each core is canned in a vacuum container to prevent contamination by air or dirt, and loss of saturation by "bleeding."

Test Cores at Well

Another pioneer company has made a contribution to better well completioning by making physical core analysis at the well. They operate a complete petroleum laboratory housed in a trailer, which is pulled by auto from well to well, and in which porosity, saturation, vertical and horizontal permeability and water analysis tests are made. Such detailed logging permits the selection of most advantageous casing seats and completion of wells with minimum gas-oil ratios.

These data are then plotted upon sub-sea depth logs, together with the Schlumberger electrical survey log, all of which provide a very reliable guide to well completioning, and reconditioning if necessary during later life.

Remedial Work

The remedial work being done upon old producers at Rodessa having high gas-oil ratios may be classified into two types, (1) the reconditioning or recompleting of the well itself, and (2) the employment of mechanical producing devices that will effect the lowest efficient ratio of gas to oil.

In the early life of the Rodessa field wells were completed with as much as 200 feet or more of open hole, thus permitting interconnection of the upper gas and lower oil sands throughout the plunging anticlinal structure. It is thought that in certain parts of this field natural repressuring of the lower oil zone has occurred, resulting in by-passing and excessive ratios. Even some later completions on the Louisiana side of the field were exposed to more than one producing zone, but rather recent orders from the Louisiana Department of Conservation have stopped this practice, and made mandatory the reconditioning of all such holes.

Use Short Strings

Short strings of casing have been set in many such wells as a corrective measure. Some operators place the smaller pipe on bottom, cement, and selectively complete. Others hang the small pipe at a predetermined level off bottom to shut off upper gas production, and cement. The newest type of short string installation makes use of a positive action back-pressure valve on bottom of the small pipe. After allowing about 100 feet of overlap, cement is run down tubing (packed off at upper liner setting tool) and forced out through the positive action back-pressure valve, and up the annular space. Volumetric calculations permit a reliable determination of the number of sacks of cement necessary to fill between the long and short string, and the bottom valve makes impossible the settling of the cement to a common level outside and inside the pipe before hardening.

Certain operators do not look with favor upon the setting of short strings, as it means the reduction of hole size in the face of possible deeper production.

Specialty Cement Jobs

High-pressure squeeze jobs on gas formations, either in open hole or through gun perforations, have been highly successful in the majority of instances at Rodessa for the reduction of ratios. Cases are on record where wells have been transformed from gas to oil producers following the application of an efficiently placed squeeze. The average pressure required to break down the gas bearing formation is from 3,000 to 4,000 pounds. This fact, together with the bottom-hole temperature of from 190° to 200° F., have demanded the universal use of the newly developed oil well cements. Their longer period of normal fluidity with greater pumpability, the retarded setting action under high temperatures and pressures, and greater ultimate strength after hardening, make them especially adaptable to Rodessa specialty work. Cement retainers have been used on the majority of successful reconditioning jobs to shut off gas bearing formations, both through gun perforations and in open hole.

Acid to Reduce Gas-Oil Ratios

Effective porosities and permeabilities at Rodessa vary widely with structural position. In certain portions of the field the Young oil bearing sand is "tight" while the gas bearing portion of the Dees-Young section is relatively porous. The judicious application of acid to the Young oil sand has in some cases greatly increased oil flow with no increase in gas volumes, with a resultant reduction in overall gas-oil ratios, and an increase in allowable.

Mechanical Producing Devices to Reduce Ratios Macaroni Strings

Figure No. 1 shows a 1¼-inch macaroni tubing installation in a Rodessa well equipped with a 2½-inch tubing inside 7-inch O.D. casing. As shown, perforated nipple is on end of 2½-inch tubing opposite the producing zone, and the 1¼-inch string is packed off against the 2½-inch at about 900 feet from bottom. Figure No. 2 graphically illustrates a 7½-hour production test at different rates of flow, and points to the most advantageous rate for securing minimum gas-oil ratios. This installation was made in March, 1937, at which time the well exhibited a ratio of 13,365 to 1 on state test. Had the ratio not been over 2,000 to 1, the allowable would have been 122 bbls. daily, but after the application of the gas limit factor in the allocation formula, this particular well was only granted 16 bbls. per day for the month of March. Following the installation of the macaroni tubing, and production at most efficient rate of flow, the gas-oil ratio was reduced to 2,780 to 1, and the daily allowable for April increased to 88 bbls. Other installations of this type are to be made by various operators at Rodessa.

Bottom-Hole Chokes

Bottom-hole chokes have been found applicable in the reduction of ratios in certain types of Rodessa wells, particularly where tubing flow velocities were so low as to cause "slippage" of gas through the fluid column.

Flow Valves

Flow valves are receiving increasing usage at Rodessa, and certain installations have resulted in greatly reduced ratios. Their application in keeping the fluid level at the most efficient predetermined point, thereby provides for a liquid seal within the pipe. This provision apparently accounts for a substantial reduction in the gas production compared with that of the oil to improve the gas-oil ratio.

Large Portable Rigs Favored in Santa Maria Valley Field

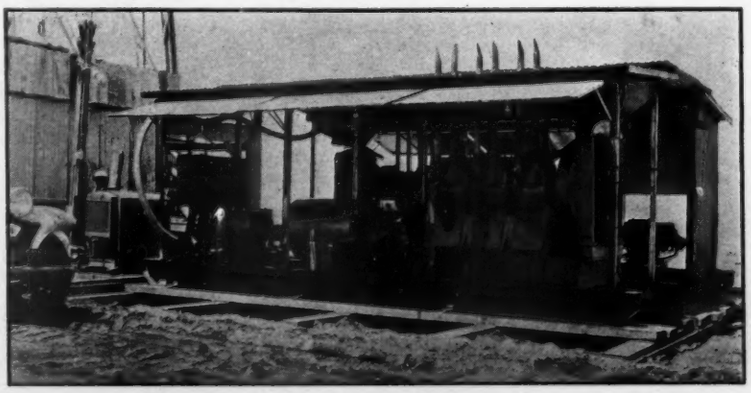
By T. P. SANDERS

Large-size slush pump driven by an electric motor. Power is furnished by portable generators. The motor is air-cooled by means of the blower seen in the foreground

Development of the Santa Maria Valley field in Santa Barbara County, California, progressed slowly from the time of the discovery in September, 1934, until several months ago when an improved outlook for the field's future resulted in the present drilling boom, making it one of California's two most active areas. Several considerations closely related to the history of the field have influenced the rate of development. The discovery well, Union Oil Co. No. 1 Moretti, had an initial production of only 30 bbls. per day, and since its completion was at a time of overproduction in the state, some time elapsed before additional drilling was undertaken. Improvement of marketing conditions later led to a more successful test, Union No. 1 Adams, which came in for 2,376 bbls. in March, 1936. While this well disclosed the productive nature of the area, two considerations remained to retard development. Unusual structural conditions made the outcome of each test highly uncertain, and moreover, the type of crude produced was not wanted by refiners. Recent investigation of marketing possibilities, however, revealed a demand for crude of this type and resulted in Union Oil Co.'s construction of the field's first pipe line outlet.

Crude oil produced in the Santa Maria Valley field is unlike other crudes of the United States. It closely resembles the type found in many Mexican fields, being of low gravity, asphalt base, and having a high sulfur content. Its two most distinctive features are its large asphalt content and its small quantity of intermediate fractions between asphalt and gasoline. There is only enough gas oil present to make the bottoms remaining after removal of the gasoline a heavy liquid rather than a solid. Distillation tests show a 21 per cent yield of gasoline with the remaining bottoms containing over 80 per cent of 80-penetration asphalt. This at first offered no encouragement, since California crudes have always provided an abundance of stock for asphalt manufacture. Investigation brought out the fact, however, that while West Coast requirements are well supplied, there is an increasing demand for asphalt on the East Coast and in many foreign countries. Being near tidewater, Santa Maria Valley crude can be conveniently shipped to East Coast or foreign refineries where the gasoline can be removed to leave a large quantity of asphalt and road oil. Already several tanker loads have been sold to Belgium. However, competition with foreign crudes will be handicapped by recent increases in shipping rates. Asphalt requirements on the East Coast are being supplied at present mainly by Mexican and Venezuelan crudes upon which a duty of 21 cents per barrel is paid, and the supply is decreasing due to labor troubles and adverse legislation in Mexico. It therefore appears that the discovery of a California oil of similar characteristics was a timely development.

All of the Santa Maria Valley crude will not be shipped from California. Part of it may be used in West Coast refineries to replace heavy oils now being used for asphalt manufacture which could profitably be used as cracking stock. In this way California's supply of motor fuel can be augmented by cracking, and possibly a better quality asphalt will be manufactured, since high-sulfur content is apparently beneficial to this product. A typical analysis of Santa Maria Valley crude is shown in Table 1.



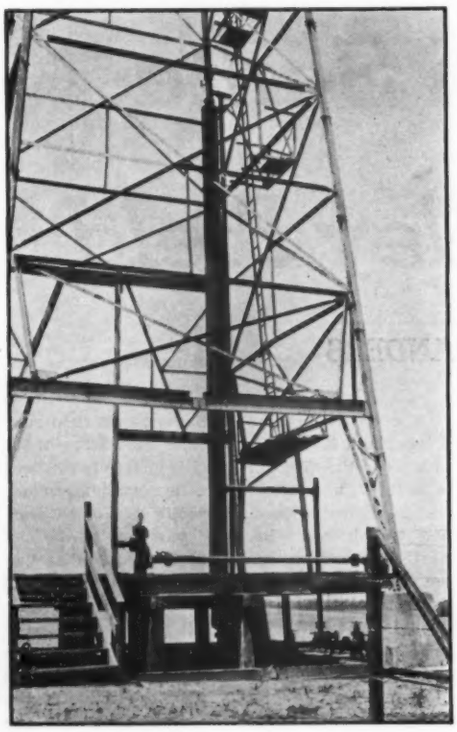
Portable power plant. Two 150-hp. engines operated on butane drive D.C. generators to furnish power for the drilling motor and slush-pump motor

The proved area of the Santa Maria field comprises about 2,300 acres. Of this 2,100 acres in the vicinity of the discovery well is generally referred to as the Adams area, while the remainder is several miles to the west where Union No. 1 O'Donnell was brought in as a pumper the last of April. The Adams area is 2½ miles southeast of the city of Santa Maria, while the O'Donnell well is the same distance southwest of the city. At present it is not known whether the O'Donnell area is an extension of the Santa Maria Valley field, or a different accumulation. The O'Donnell crude is 2 degrees higher in gravity than the crude of the Adams area, but it is otherwise essentially the same. Whether or not the two areas are considered parts of the same field, indications are that an extensive productive area remains to be developed.

Santa Maria Valley crude is produced from the Monterey formation of Miocene age, which is composed of sand and shale. In this locality the Monterey overlies the basement rocks, referred to as Franciscan. In some wells the Monterey is found to have a thickness of as much as 1,500 feet, while in other places it is missing. In general the formation thickens rapidly to the south as it dips into the Santa Maria Valley Basin. Since practically the entire Monterey section has been productive in wells completed to date, the thickness roughly determines the productivity. A fault apparently limits production on the north. Very little is known of the structure, and this uncertainty is still serving to retard development. However, no water has been found in the Monterey yet, and this consideration is encouraging. Wells vary in depth from 2,500 to over 5,000 feet depending on the position of the structure. Twenty wells had been completed by June 1, 13 by the Union Oil Co., 4 by R. R. Bush Oil Co. and Hancock Oil Co., 2 by A. M. McCrate, and 1 by Echo Oil Co. The field potential was considered 26,170 bbls. per day, but this is probably low. Before the completion of Union Oil Co.'s pipe line connection with pumping and storage facilities which will handle the production of the entire field, the only outlet for crude was by truck. For this reason the total production of the field from the time of discovery to April 1, 1937, amounted to only 110,000 bbls., and practically all of this was produced during potential tests on new wells.

The system adopted for handling the crude in the new pump

station, which is situated in the center of the Santa Maria Valley field, presents a good example of the problems brought about by such a crude. All heavier California crudes require heating or comingling with lighter crudes when they



Standpipe in derrick being used as a gas trap on a Santa Maria Valley well. The gas-oil ratio of wells in this field is exceptionally low compared with many California fields

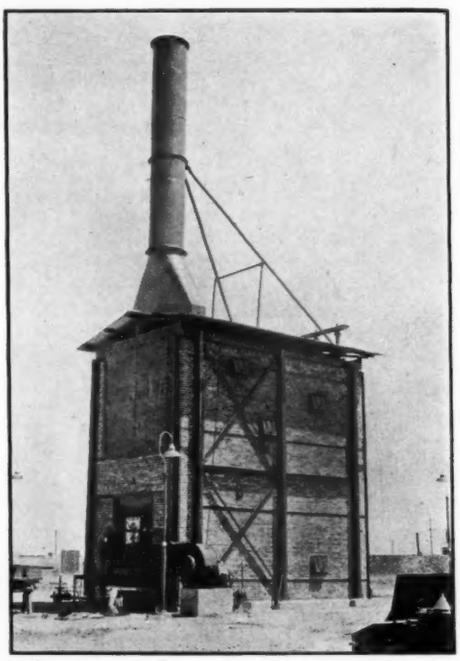
are to be moved through pipe lines, but this requires special facilities because of its low flash point. If it is heated to a temperature at which the heavy fractions will readily flow, vaporizing of the gasoline fraction is so great that pumps become gas-locked, unless a high intake pressure is maintained. Two-stage pumping was therefore required at the new pump station. The first-stage pumps force the oil through the heaters and deliver it to the main-line pumps at a pressure sufficient to prevent excessive vaporization. This enables the two centrifugal pumps in the station to deliver 1,000 bbls. per hour under a pressure of 800 pounds into the 8-inch main-line from the field.

The pump station was erected in the following manner: Two 40,000-bbl. tanks receive oil from field gathering lines. A 16-inch line connects these tanks to the suction of the first-stage pump station. These pumps discharge at 65 pounds pressure into two lines, which split the stream. One stream goes directly to the suction of the main-line centrifugal pumps, while the other passes through the coils of a direct-fired heater, where it is heated to 270° F. Upon emerging from the heater, the hot stream is split, one part returning to the storage tanks to facilitate flow of oil from the tanks, while the other part goes to the suction of the main-line centrifugal pumps where it mixes with the cold stream. In this way the main-line pumps receive their charge at an average temperature of 170° and a pressure of 65 pounds. The centrifugal pumps are driven by vertical 300-hp. 8-cylinder, 4-cycle natural-gas engines.

Operation of Pipe Line

From the new pump station the crude passes through 2¼ miles of new line which connects to a thirty-mile line running from the Orcutt field to Avila, where the marine loading terminal is situated. At Summitt, a midway point on the old line, a booster station similar to the Santa Maria station has just been completed. The operation of the line will be by batch process to avoid mixing Santa Maria Valley and Orcutt crudes. The Santa Maria Valley crude can be handled in tankers with the steam coils customarily used, since it will only be pumped for a short distance when it is unloaded. These coils heat the cargo to about 110° F. During a long voyage when exhaust steam is customarily used in the coils, the temperature will probably drop considerably, but heating with live steam will be commenced several days before unloading.

Santa Maria Valley wells produce exceptionally small volumes of gas, but it is rich in gasoline vapors. Most wells produce from 100,000 to 500,000 feet per day. The initial gas-oil ratio on Adams No. 2 which came in for 4,290 bbls. as the field's biggest well, was only 240 feet per bbl. The gas is compressed in the field and piped six miles to Orcutt absorption plant where the gasoline vapor is removed. Dry gas is returned for some of the drilling and pump station operations. It is improbable that an absorption plant will be required in the field.



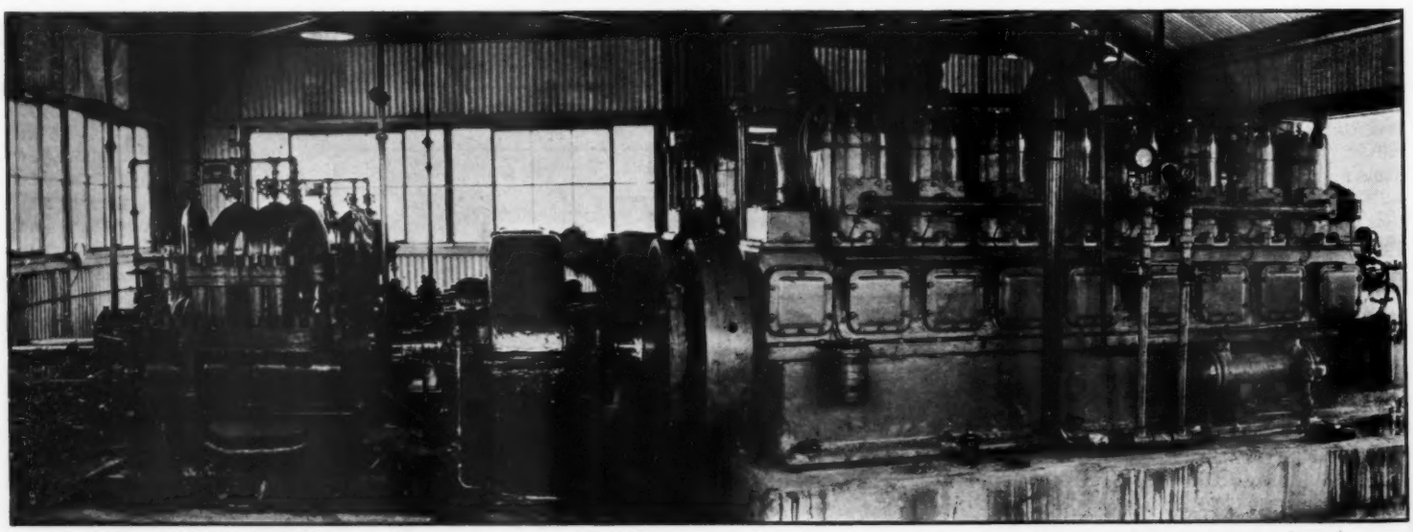
Santa Maria Valley crude is pumped through the coils of this direct-fired heater by low-pressure pumps. Hot oil is then pumped into the pipe line by centrifugal pumps

Water available for drilling in Santa Maria Valley is exceptionally hard, and this has caused most of the companies to adopt some method of water treatment at each rig to avoid excessive scale formation. Lime-soda ash treatment is most commonly used, since the zeolite process requires salt water for

(Continued on Page 59)

TABLE 1—ANALYSIS OF SANTA MARIA VALLEY CRUDE

	Per cent	Gravity	Viscosity	Octane No.
Crude oil	....	15 8	120 S.F. at 122° F.	.....
B.S. and W.	0.30	....	....	.....
Sulfur	4.44	....	....	.....
Gasoline (425 E.P.)	21.	51.0	....	60
Gas-oil (725 E.P.)	23.	23.0	50 S.U. at 100° F.	.....
Residuum	56.	6.0	2000 S.F. at 210° F.	.....



Three-hundred horsepower eight-cylinder vertical natural gas engine at Union Oil Co.'s new pipe line station in Santa Maria Valley field driving a centrifugal hot-oil pump. An identical installation is directly behind

Autoxidation and Formation of Gum Retarded by Inhibitors

By M. H. MIKHAILOVA and M. B. NEIMAN*

From a consideration of the literature on the subject of autoxidation and gum formation and on the use of inhibitors there are still many unsolved problems, such as (1) the mechanism of the autoxidation of the two-phase system gasoline-gas where the actual primary oxidation occurs, (2) the influence of the partial pressure of oxygen on the velocity of autoxidation, (3) the influence of temperature and (4) the effect of inhibitors.

The action of inhibitors has not been mathematically related to the rate of autoxidation by previous workers. In order to clarify this relationship, the authors deduced the following equation from Christiansen's[1] work:

$$W = \frac{N_o}{B + K_c}$$

where W = the velocity of the chain reaction involved in the autoxidation of gasolines, N_o = number of primary active centers, B = probability of rupture, c = concentration of the inhibitor, and K = a constant.

A similar equation was deduced from Langmuir's adsorption isotherm, considering the reaction as occurring on the wall surface or on the interface between liquid and gas, where the inhibitor is absorbed:

$$W = \frac{ba}{a + kc}$$

where b and a are constants.

The similarity of the form of the two equations, each derived independently of the other, would indicate that autoxidation depends on surface or interface reaction.

The experimental work done in connection with this paper has for its purpose the proof of the mechanism of autoxidation and inhibitor action as specified in the above equations.

The experimental work was carried out with pseudobutylene, cetene (d 20/20 0.794; n_D 1.4499), three cracked gasoline fractions boiling at 148-153° C., 138-148° C. and 128-141° C., respectively, and cracked gasoline from the Winkler Koch unit at the Konstantinovskii refinery, the latter containing 0.01 per cent alpha-naphthol. The alpha-naphthol used had a melting point of 95-16° C., and the oxygen used in the experiments was not subjected to purification.

Cracked gasoline vapor mixed with one and one-half times its volume of oxygen gas at 100° C. and 500 mm. total pressure, did not show signs of oxidation during 4-8 hours. Pseudobutylene, likewise, under approximately the same conditions, was unchanged.

On the other hand, the liquid cracked gasolines in the presence of oxygen had induction periods of 10-50 minutes at 100° C., followed by rapid reaction lasting for 1-3 hours.

From the above observations, oxidation of gasoline takes place either in the liquid phase or at the interface between liquid and gas, but not in the gaseous phase.

Relation of Induction Period to Velocity of Oxidation

From a consideration of the chain reaction theory, the number of active centers formed per second during the induction period and after its discontinuance must be constant, only the length of the chain being changed. Therefore, all factors changing the number of initial active centers (concentration of oxygen, area of surface and temperature) must simultaneously exert some influence on the duration of the induction period (t), and therefore the velocity of the reaction must be inversely proportional to the induction period, as shown in the following equation:

$$Wt = \text{a constant.}$$

This latter relationship between velocity (W) and duration of the induction period (t) was found to hold for all experiments.

Experiments made by the authors indicate that (1) the induction period is shortened with increase in the surface area of the gasoline; (2) the velocity of oxygen consumption increases with increase of the gasoline-oxygen surface; and (3) the oxidation velocity increases linearly with increase of the gasoline-oxygen surface. Therefore the velocity of oxidation of cracked gasoline is directly proportional to the interface area between the liquid gasoline and the oxygen gas.

Effect of Oxygen Pressure on Velocity of Oxidation

The induction period is lowered with increase of oxygen pressure and the velocity of oxidation is increased linearly and proportionally to the oxygen pressure. At an oxygen pressure of 25 mm., the beginning of oxidation is not noticeable even after 16 hours.

Influence of Inhibitor Concentration on the Induction Period

If we assume that the inhibitor is oxidized at an approximately constant velocity during the induction period, then the time required for its oxidation is proportional to its concentration. If the induction period in the absence of the inhibitor is t_o, then upon the introduction of the latter it will be increased by the value kc and will be approximately in accordance with the equation:

$$t = t_o + kc$$

which agrees roughly with the results of Egloff, Dreyer, Lowry and Morrell[2] on the autoxidation of cyclohexene and cracked gasolines in the presence of alpha-naphthol.

The experimental results obtained at 20° C. by the Rehbinder method[3] indicate that the inhibitors are evidently not adsorbed on the surface of the cracked gasoline.

Cetene was used here because of difficulties experienced in the determination of the energy of activation of cracked gasoline at various temperatures due to the change in composition arising from great changes in vapor pressure with temperature.

The induction period can be calculated for

Large forged nickel-steel vessel for low-temperature, high-pressure dewaxing service

*Translation of abstract prepared from original article by the American Chemical Society.

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various temperatures from the equation mentioned previously:

$$wt = \text{a constant.}$$

Using the Arrhenius equation:

$$t = Ae^{\delta/T}$$

where A = a constant, and the previous equation, the data of Ramsay[4] can be intelligently interpreted. A calculation to room temperature is unsatisfactory.

Influence of Light on the Velocity of Cetene Oxidation

Vellinger and Radulesco[5] suggested the use of photoxidation as the standard method for the investigation of the stability of cracked gasolines. The induction period is shortened when cetene is irradiated with ultraviolet rays. The oxidation reaction takes place during the exposure, and continues after exposure at a slower rate.

Discussion of Results

The results obtained agree qualitatively with those of other workers; they may be explained on the basis of (1) the theory of volume oxidation and (2) surface oxidation. Gas phase oxidation is out of the question as shown elsewhere in this paper.

That volume oxidation was taking place was indirectly indicated by surface tension measurements of alpha-naphthol solutions in cracked gasoline. These measurements indicated no adsorption of inhibitor on the surface of the gasoline, this being contrary to Bailey's theory of the action of inhibitors. The inhibitors cause a rupture of the reaction chains in the volume where the chemical reaction is taking place.

In order to determine whether the formation of active centers takes place in the volume or on the surface, resort was made to statistical calculation of the oxidation velocity. All the data necessary for this calculation was at hand except that for the solubility of oxygen in cetene, which was determined as follows:

The value for the solubility of oxygen in cetene can be evaluated fairly accurately by the Hildebrandt theory. By extrapolating the data of Vroblevskii for the pressure of oxygen vapor in accordance with the equation

$$\log p = A - \frac{B}{T}$$

in the region of higher temperatures, we obtain p = 1,000 atmospheres where T = 100° C., and p = 500 atmospheres where T = 27° C. According to the Hildebrandt theory the solubility of oxygen in the case of true solutions at p = 1 atm., and t = 100° C., amounts to 0.001 mol. per molecule of solvent. This corresponds to about 0.1 ml. of oxygen per ml. of cetene at 100° C. and 0.2 ml. at 27° C. These figures are comparable with literature data on the solubility of oxygen at 18° C. in paraffin oil (0.114 ml.), kerosene (0.159 ml.) and tetralin (0.094 ml.),[6] in Russian crude oil (0.202 ml.),[7] and in transformer oil at 25° C. (0.156 ml.) and at 80° C. (0.149 ml.).[8]

The number of collisions of one molecule of oxygen with cetene molecules at 100° C. may be calculated approximately from the equation:

$$Z_1 = \frac{8RT}{3\pi D}\left(\frac{1}{M_1} + \frac{1}{M_2}\right)$$

where R = the gas constant, T = the absolute temperature, D = the diffusion coefficient, and M_1 and M_2 = molecular weights of cetene and oxygen respectively. A calculation of the activation volume for 5 ml. cetene at 100° C. and an oxygen pressure of 1 atm. showed that the calculated reaction velocity exceeds that observed by $2 \cdot 10^{16}$ times. When reaction chains are not allowed for, the figure for calculated reaction velocity is still higher.

If it is assumed that active centers are formed only on the cetene surface when oxygen molecules from the gas phase collide with cetene molecules in the surface, then the number of collisions per sq. cm. of surface may be calculated from the equation:[9]

$$Z = n\left(\frac{RT}{2\pi M}\right)^{1/2}$$

where n = the number of oxygen molecules per ml. of gas. A calculation involving this equation shows that the reaction velocity approximately exceeds 1,000 times the number of active centers, assuming that the latter are formed on the interface between liquid and gas. This is in accordance with the chain reaction mechanism. Thus, it is concluded that the autoxidation of cetene proceeds by the formation of active centers on the interface area between the liquid and gas phases. From the active center so formed, reaction chains grow and diffuse into the interior of the liquid.

Based on the above idea of autoxidation of cetene, the oxidation of olefins by dissolved oxygen in a vessel with noncatalyzing walls must proceed very slowly in the absence of the gas phase.

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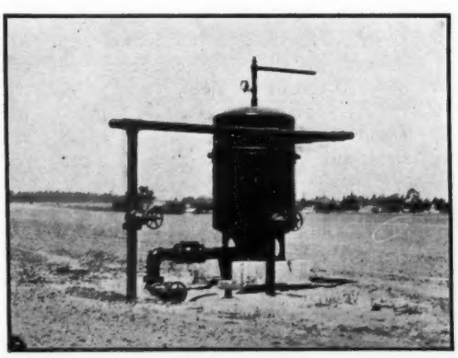
PORTABLE RIGS

(Continued from Page 54)

rejuvenating, and this creates a disposal problem on cultivated leases. When Union Oil Co. made plans to drill No. 1 O'Donnell, the necessity of treating boiler water and the expense of running a gas line to the location, caused the selection of a portable electrical rig. Butane, which is hauled in by truck, is used in internal-combustion engines to drive DC generators which develop power to operate the drawworks and mud-pump motors. While the electrical system is of a type which has been used before, the new rig is of interest because of its portability. The equipment is divided into units which can be conveniently handled by trucks, and each unit is mounted on skids. The wiring is so arranged that a minimum of the electrician's time is required in separating the units and connecting them again when a move is made. This feature makes it possible to use wiring of a more permanent nature, which can be heavily insulated and held in one position to reduce danger to rig workers from the electric circuits. The advantage of using electrical equipment on the rig instead of operating the drawworks, rotary, and mud-pump by mechanical connection from the internal combustion engines lies chiefly in the fact that high torque is obtained at low drawworks speeds, which permits starting the load off bottom with ease. Direct-current equipment using generator voltage control gives the rig the flexible characteristics of a steam rig, and avoids the necessity of applying the engines torque to the drawworks by means of a clutch.



View showing character of country in the Santa Maria Valley field with a combination gas-trap and dump meter in foreground. One of these installations is commonly made for each pair of wells in the field

Future development of the Santa Maria Valley field will be characterized by an increasing use of portable drilling rigs of various types and designs, since conditions call for this type of equipment. In a field such as this, where wells are of medium depth, drilling is fairly rapid, the country is level, and a great number of wells are to be drilled, the time required for dismantling a rig and assembling it at a new location becomes a most essential factor.

Testing Methods

Testing methods for various fractions of petroleum, ranging from gaseous hydrocarbons to coke, are contained in "U.O.P. Laboratory Test Methods for Petroleum and its Products," which is just off the press.

These test methods, numbering about 100, have been compiled and edited by Charles Wirth III and Frank J. Vitovec, Jr., with the assistance of their associates in the analytical and control laboratories and the counsel of members of the Universal Oil Products Co. research and development laboratories at Riverside. Many of them have been used for a number of years and all have been tested and proved in the Universal laboratories.

The book containing 250 pages, is substantially bound in board covers, which permits it to lie flat when opened. It is illustrated by a number of drawings of the apparatus described and graphs for the interpretation of the tests. The price of the book is $3.00.

Wall Chart of Solvent Data

A 20-inch by 26-inch wall chart showing the important properties of 90 commonly used solvents has been compiled and made available by Carbide & Carbon Chemicals Corp. On one side is a table of physical properties and on the reverse side are three graphs showing the relative evaporation rates of different solvents which are helpful in formulating lacquers, varnishes, polishes and other industrial products. Use of this chart gives a more accurate idea of solvent utility. It will be a great asset in a laboratory, plant or office. One can be secured by writing to Carbide and Carbon Chemicals Corp., Dept. G, 30 East 42nd Street, New York, N. Y.

Asphalt Reference Book

A pocket-size reference handbook for use by highway engineers has been prepared by the Asphalt Institute. It contains 237 pages and covers all phases of asphalt highway construction. Copies are available to engineers upon written request sent to the institute at 801 Second Avenue, New York City.

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UNITED STATES STEEL

PROBLEMS FROM READERS

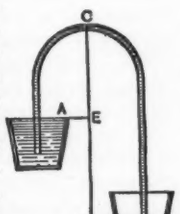
Edited by L. G. E. Bignell

Draining Small Sunken Tank

We have a small tank buried in the ground to a depth of about 3 feet and find it necessary to remove the water from it once in a while. One of our lease men claims this water can be siphoned out on to the ground if a 50-foot piece of hose is used. His contention is that if the hose is filled with water and one end inserted in the water in the tank and the hose lifted to a height of about 4 or 5 feet above the level of the tank and then the other end of the hose is quickly lowered to the ground the velocity of flow of water down the long branch of the hose will suck the water out of the tank. The discharge end of the hose is only slightly lower than the upper level of the water in the tank. The contention is that the velocity of the water flowing down the slope of the hose will create enough energy to suck the water out of the tank. Can this be done in the manner described? —I. G. F.

Not having seen this method of operating a siphon demonstrated it is only possible to refer you to the principles of siphons as described in text books on hydraulics.

The action of a siphon is an important practical illustration of atmospheric pressure. It is simply a bent tube of unequal branches, open at both ends, and is used to convey a liquid from a higher to a lower level, over an intermediate point higher than either.



Let A and B, in the accompanying sketch, be two vessels containing water or some other fluid, B being on the lower level, and ACB a bent tube. Suppose this tube to be filled with water from the vessel A, and to have its extremities immersed in the water in the two vessels. The water will then flow from the vessel A to the vessel B as long as the level B is below A, and the end of the shorter branch of the siphon is below the surface of the water in the vessel A.

The atmospheric pressures upon the surfaces A and B tend to force the water up the two branches of the tube. When the siphon is filled with water, each of these pressures is counteracted in part by the pressure of the water in the branch of the siphon that is immersed in the water upon which the pressure is exerted. The atmospheric pressures are very nearly the same for a difference of level of several feet, owing to the slight density of air. The pressures of the suspended columns of water, however, will for the same differences in level differ considerably, in consequence of the greater density of water. The atmospheric pressure opposed to the weight of the longer column will therefore be more resisted than that opposed to the weight of the shorter, thereby leaving an excess of pressure at the end of the shorter branch, which will produce the motion.

Draw a vertical line DEC, and let h denote the barometric pressure, expressed in feet of water column; k the area of a section of the tube, and w the weight of a unit of volume of the fluid, then the water at the point C is urged from left to right by a force expressed

$$wkh - wk \times EC;$$

and it is urged from right to left by a force

$$wkh - wk \times DC.$$

Subtracting the second from the first,

$$wk\,(DC - EC) = wk \times DE$$

for the resultant force which urges the water at C from left to right, and hence there will be a continuous flow of water from the upper to the lower vessel.

It will be noted the direction of flow is wholly due to the fact that the level of the water in B is below the water in A. It is not necessary therefore the longer branch should be immersed in the water; so long as the end B of the tube is below the water surface in A, the water will continue to flow through the tube ACB, until either the surface in A has fallen below the end of the tube, or, if the siphon be long enough, until the surface in A has descended so far that its depth below C is greater than h.

All explanations of the siphon state it is essential the lower or discharge end be below the intake end of the tube. The limit to the rise of the siphon at sea level will be about 34 feet or the equivalent of a column of water to balance barometric pressure.

There seems to be no way to make a siphon operate successfully unless the discharge end is lower than the intake and the raising of the hose above the level of the water in the tank will not affect the operation of the siphon and certainly will not produce a condition such as implied by your question, i.e., the flow of water down the long arm of the tube will cause water to be sucked up from the tank.

Interstate Oil Compact Commission

Please inform us which states are parties to the Interstate Oil Compact Agreement. We understand that representatives of the states of Oklahoma, Texas, California and New Mexico originally executed this agreement February 16, 1935. We are under the impression California is not now a party and assume the state did not ratify the compact or withdrew as a party thereto at a later date.—J. E. M.

There has been a slight delay in answering your letter asking for the parties to the Interstate Oil Compact Agreement. We are now informed by Mr. Art L. Walker, Secretary for the Interstate Oil Compact Commission, Oklahoma City, Okla., that Colorado, Kansas, New Mexico, Oklahoma and Texas legislatures have all passed the renewal of the Interstate Oil Compact and are now members. Illinois house of representatives and the senate have passed their renewal and this bill awaits the signature of Governor Horner and it is expected it will be signed soon.

The Interstate Oil Compact Commission was organized in 1935 for a period of two years. The legislatures of the various states passed acts authorizing the extension for two more years and this will extend the commission until September 1, 1939.

Before it is completed it will have to be approved by congress and the president. A bill authorizing the approval is on the president's desk now and Senator J. Elmer Thomas of Oklahoma advises he expects to introduce the resolution in congress asking for approval of same and as there have been no objections it is expected it will have a quick passage.

The states now renewing the compact are the same ones entering into the compact when formed in 1935. Michigan, California, Indiana, Kentucky, Ohio and Pennsylvania have sent representatives to the various compact meetings to act as observers without voice in the proceedings.

Reclaiming Tank Bottoms

We have a process for dehydrating bottom settlings and reclaiming waste oil from material gathered in the bottom of storage tanks. Is there any such process now used? What percentage of oil does it recover from bottom settlings? What saving to the oil industry would such a process make through the elimination of storage tanks, including the value of oil reclaimed?—E. C. S.

The reclaiming of oil from bottom settlings is a process as old as the industry. There have been dozens of processes tried and some have been quite successful and others not so good.

This thing is so obvious that the industry has been working on it for years and it is not as simple as you might assume for no two batches of b.s. are composed of the same elements.

Offhand we would predict there is very little market in the industry for a process of this kind because the volume of settlings now available is quite limited regardless of your optimistic statements to the contrary.

Here and there exists some tank bottoms but until the tanks are completely emptied this material is not available for treatment. When the tanks are emptied there is usually someone nearby who learns of this fact and will undertake to clean up the oil on a percentage basis. If the volume on hand is fairly small it does not pay to move in a lot of equipment so the material is burned. If it is of appreciable quantity some individual will usually be found to undertake to treat it so the larger company owning the settlings has no special interest in the method employed and the individual will not pay for special equipment.

There are chemicals available, many of them covered by patents, for the treatment of b.s. But now it is common practice to treat the oil as produced and reduce the volume of b.s. to a minimum so the loss is small and that is the logical thing to do.

The idea is prevalent among people outside of the oil industry that there are large volumes of bottom settlings existing in tank farms all over the country.

As a matter of fact the Bureau of Mines is now making a survey of all oil storage in this country and will develop the quantity of bottom settlings actually in the tanks and after that is done and the facts made available there will be something concrete to work on and the problem can be evaluated.

You might write to the U. S. Bureau of Mines, Washington, D. C., and ascertain how far they have progressed with this survey and when the report will be available for distribution.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Large Volume of Gas Produced in Stills at Coking Stage

When petroleum is distilled under refinery conditions does the volume of gas given off increase with the rise of temperature, or is most of it produced along with the first products, such as gasoline?—W. P. A.

The quantity of gas evolved during the heating of a crude oil in the stills is directly related to the kind of oil refined. An extremely high gravity oil, fresh from the well, will yield the larger volume of gas during the early part of the heat treatment. A heavy oil will give the most gas at the end of the distillation, that is while approaching and during the coke forming period.

An oil of normal grade will yield gas as illustrated in the table, showing the distillation of two oils, of different origin, of nearly the same gravity.

GAS EVOLVED FROM HEATED OIL

No. 1

Grav. A.P.I. Per cent off	38.5 Temp. °F.	Cu. ft./ bbl. oil	Per cent of total gas
10	225	9.93	19.67
20	270	0.00	0.00
30	345	0.00	0.00
40	405	0.22	0.44
50	485	0.00	0.00
60	570	0.00	0.00
70	650	0.22	0.44
80	...	...	...
To coke	...	40.12	79.45

No. 2

Grav. A.P.I. Per cent off	37.7		
10	215	11.91	21.66
20	300	0.00	0.00
30	360	0.00	0.00
40	415	0.18	0.33
50	475	0.00	0.00
60	535	0.54	0.99
70	525	1.49	2.72
80	600	5.35	9.72
90	565	6.48	11.78
To coke	...	29.04	52.80

It will be noted in these experiments that all of the contained gas in the lower hydrocarbons was expelled at about 225° F. and the gas of decomposition reached the maximum during the coking stage.

The results reported here are from personal experiments.

Probable Oil Reserves Related to the Gasoline Supply

Is there any agreement among the authorities on how long crude oil will be available and enough gasoline produced to supply the increasing demand for motor fuel? —S. T. O.

It seems that everybody associated with the finding and production of petroleum has an opinion as to how long oil will be a commercial product. The life of a known oil producing structure may be quite accurately estimated, but just how long the United States, or some other country with large areas of sedimentary rocks, will continue to furnish ample supplies of oil cannot be estimated with any degree of accuracy. Therefore, the authorities are not in agreement.

Last year an estimate was announced that the oil supply of the United States would last only 15 years more. Mexico is about through, only eight years more, Colombia 20, Venezuela only 10 years. It is encouraging though to be told that Iraq will be producing oil 110 years from now, the life of the Albanian fields has been set at 198 years and it may be that Austria will be in the oil business 150 years from now.

We cannot be certain just how much oil may be required, to make our future gasoline. If we had nothing more now than the refining methods of 25 years ago the crude oil supply would not be adequate for our present needs, and gasoline would be an expensive luxury. However, the cracking process now produces many times more gasoline than was produced by the refining methods of 1912; in fact, the cracked gasoline today is a larger volume than that obtained by the straightrun operation. Polymerization and hydrogenation could supply even larger percentages.

It appears equally difficult to predict what the chemist and technologist will accomplish with petroleum in the next 25 years, as it is to estimate how much crude oil will be available at the end of the same period.

Determining Gum in Gasoline in Presence of Lubricating Oil

The A.S.T.M. discussion on the scope of the gum test makes the statement that fuels containing nonvolatile liquids, such as lubricating oil, obviously require special treatment. What special treatment is given when testing a gasoline of this type?—R. M. S.

A pure lubricating oil will not become solid at the temperatures employed when making the gum test in a dish; therefore upon evaporation of a gasoline, or other fuel containing lubricating oil, such oil will appear in the test dish as a liquid residue.

The special treatment when making a gum determination of a gasoline containing oil is to make the test in the usual way, reducing by evaporation until there is no further appreciable loss. Then wash the residue with a very light and pure gasoline to remove all oil; this treatment will not dissolve the gum. Decant off the washings. Return the dish to the bath, dry in the oven, cool and weigh.

When it is desired to determine the quantity of lubricating oil present, the weight of the first residue, gum plus oil, should be obtained. The final weight of the dish and gum substracted from the first weight will represent the weight of the lubricating oil.

Crude Oil and Topped Oil of Same Gravity Are Not Identical

We are interested in a controversy involving two oils, A and B. A is an oil of 25 gravity as produced, the other is an oil which has been topped to a 25-gravity bottom. On a contract for crude oil of 25 gravity, would it be proper to supply both of these?—D. R. L.

It is unfortunate that we do not have standardized terms for the petroleum industry. The American Society for Testing Materials has published tentative definitions of 18 words and terms but many of these are too general for use in contracts. However, crude petroleum is defined: "A naturally occurring mixture, consisting predominantly of hydrocarbons, and/or of sulfur, nitrogen and/or oxygen derivatives of hydrocarbons, which is removed from the earth in liquid state . . ." A note states, in substance, that if the removal of extraneous substances, gas, etc., appreciably affects the composition of the oil mixture, then the resulting product is no longer crude petroleum.

Further, there is an A.S.T.M. definition for Topped Crude Petroleum, reading "A residual product remaining after the removal, by distillation, or other artificial means, of an appreciable quantity of the more volatile components of crude petroleum."

An oil that had been topped would not have the same composition as a crude oil of the same gravity. Even a heavy oil of 25 gravity would normally contain some volatile products such as gasoline and kerosene.

With these considerations, I should say that the two oils are not identical, both are decidedly not crude oils.

The lack of standard definitions of terms which have a special meaning in a particular industry, may result in expensive litigation. Judge Irving Lehman, New York State Court of Appeals, has recently, according to Industrial Standardization, found it impossible to render a decision on a contract, because he was unschooled in the language used—"The parties who made the contract presumably understood the meaning of the words they used. We are without guide in arriving at a construction of words where there is disagreement between the parties as to the meaning which they were intended to convey. The courts endeavor to apply the definitions accepted by both parties, though such definitions may be unknown to lexicographers. The parties may, if they choose, use their own special dictionaries, but when they ask the uninitiated to construe their contracts they must furnish them with dictionaries they have used."

References: A.S.T.M. Standards on Petroleum Products, September, 1936, page 358. Industrial Standardization, May, 1937, page 131.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Dibenzyl-para-aminophenol

Use—Antioxidant for preventing gum formation in cracked gasoline.

Form—Brownish powder.

LIMITATIONS

Melting point, min. °F.	230
Purity, min. per cent	95
Gasoline insoluble, max. per cent	3
Solubility at 77° F., approx., in per cent:	
Acetone	35
Benzene	15
Water	0.004
Gasoline	0.107

SERVICE ON NEW FIELDS

LINCOLN AND CLAIBORNE PARISHES, LOUISIANA

Compiled by The Oil and Gas Journal, July 1, 1937

Approved name:

Lisbon Oil field of Louisiana. (There is also a Lisbon field in Arkansas).

Geographic location:

This North Louisiana oil field is situated in the east-central portion of Claiborne Parish, and in the north-central portion of Lincoln Parish.

Principal towns and cities nearby:

The town of Lisbon, Louisiana, is about 3 miles from the field; has about 300 population; and has no railroad facilities. Homer, Louisiana, with a population of about 3,000, lies about 15 miles west of the field, and is situated upon the L.&N.W. railroad. Ruston, Louisiana, with a population of about 4,300, lies 25 miles southeast of the field, and is served by the Rock Island and Illinois Central lines.

Power:

Very little gas is associated with oil at Lisbon, and purchased power is used for drilling and field operations. Louisiana Power & Light Company has an electric high line through the field, and United Gas Public Service Company serves the area with a gas distribution line.

Water supply:

Prolific water wells from about 300 to 500 feet in depth supply all domestic and drilling water.

Supply houses:

Six supply companies maintain stores in the field. Others prefer to serve the field from outlying points where railroad facilities are available.

Developments

Early history:

After having original derrick blown down before drilling was started, and abandonment of first hole at 4,232 feet following impossible fishing job, E. T. Oakes and H. D. Easton, with associates in Homer, Shreveport, and Little Rock, brought in No. 1 W. H. Patton Estate, NE corner of section 1-20-5w, Claiborne Parish, on Christmas day, 1936, flowing about 200 bbls. per day. Three offsets were immediately staked, all of which were completed as producers with an aggregate initial flow of about 1,500 bbls. daily. Development of the field was rapid thereafter.

Completions to date:

A total of 42 completions has been made in the field as of June 23, 1937.

Present drilling operations:

Wells drilling or rigging up now total 23, of which 18 are in Claiborne Parish and 5 in Lincoln Parish.

Present daily average production:

For the week ending June 26, 1937, the daily production averaged 12,725 bbls., which established a new peak production from the field.

Accumulated production:

Accumulated oil production from the field now amounts to about 380,000 bbls.

Geology:

The Lisbon structure is now thought to be a low flat dome, possibly extending over 8 or more square miles. Production is from the Pettit lime, occurring at the base of the Lower Glen Rose, or just above the Travis Peak (Trinity group). Present completions indicate that the per cent of porosity in the lime, and thickness of pay, determines potentiality. The discovery well logged 11 feet of saturated lime, and subsequent completions to the north have logged a maximum of 18 feet of saturation. Some informed geologists feel that present Lisbon production is on the flank of a much larger field than indicated from present developments.

Future Development

Proven area:

Present developed area comprises about 2½ squares miles, or 1,650 acres. The thickening of the saturated Pettit lime in both the northeast and the northwest indicates a continuation of the field northward into more prolific territory, but no outpost tests have been completed to establish the area as "proven."

United Gas Public Service Co. drilled a 6,000-foot test in 1933 on its Meadows farm, NE SE of section 13-21n-5w, 2½ miles due north of the Oakes discovery well. This hole was carefully cored and several drill stem tests made. The recovery of saturated oil sand was reported from the Pettit, with poor porosity. The acidizing of wells was not upon a commercial basis at that time, and the showing was considered unattractive, and the well was abandoned. Seeping oil from the plugged hole has been apparent for the last 4 years, increasing to the rate of about 5 bbls. daily. It is thought altogether possible that the field will extend northward to this point, and beyond. As much as 20 square miles might be productive if this is the case, in view of the thickening pay to the west and east.

Probable rapidity of development:

As yet drilling has been confined to the close limits of the field, and no important extensions have been begun. This is probably due to the rather thin pay section found in the original completions, but with the thickening lime indicated by later completions, such outpost tests may be expected soon. United Gas Public Service Co. holds a solid 12,000-acre block just north of present proven area, and its development of this area will probably be slow and methodical.

Lisbon reserves:

After increasing the effective porosity of the Pettit section with acid, an ultimate recovery of 500 bbls. per acre foot is thought to be conservative. First Lisbon estimates considered about 8 square miles productive, with an average sand thickness of 10 feet, porosity 15 to 20 per cent,

SERVICE ON NEW FIELDS

fully saturated, which calculated in the neighborhood of 25,000,000 bbls. reserve. Thickening lime to the north has given justification for greatly increasing the original estimate, and the round figure of 50,000,000 bbls. is tentatively given as ultimate recovery for the entire field. Important extensions would add to this figure.

Allocation of production:

Original manner of Lisbon proration was upon a per-well basis, but effective May 1 allocation was placed upon a 75 per cent acreage and a 25 per cent bottom-hole pressure basis, with a gas limit factor of 2,000 cubic feet per barrel of oil. Spacing rule stipulated one well to 20 acres. Due to the absence of gas in this formation, the gas limit factor has never been applied. The Louisiana Department of Conservation conducts monthly bottom-hole pressure survey before allocation schedule is calculated.

The average per-well oil allowable is about 300 bbls. per day under this basis, as a total of 6,300 bbls. daily was allocated for the month of June, 1937. The July allowable is 10,000 bbls. daily.

Producing Practices

Manner of production:

At the present time all wells are flowing through from 15/64- to ¾-inch tubing choke by virtue of what appears to be a hydrostatic pressure head. Bottom-hole pressure averages 1,850 pounds. It is estimated that pumping will not be necessary until the reservoir suffers a bottom-hole pressure decline of from 350 to 500 pounds.

Acidizing:

All wells are acidized upon completion, usually taking a 3,000-gallon diluted charge. The degree of porosity in this lime formation largely governs the potentiality of each well, and acidizing has more than doubled initial productions, and in some cases has brought wells on flowing production which before would not flow. Repeated acid jobs may be employed to extend flowing life of individual wells.

Drilling Practices

Type drilling equipment used:

The conventional type of Rodessa steam drilling rigs were first moved into Lisbon, employing the 7½-inch drawworks, the 12x12 drilling engine, and 18-inch slush pump assembly. Later a few smaller rigs have been successfully used, but drilling below the chalk rock at about 2,000 feet is hard.

Fuel:

To date all wells have been drilled with gas generated steam. Natural gas is purchased from the United Gas Public Service Co.'s distribution system at 15 cents per 1,000 cubic feet straight. The Louisiana Power and Light Co. is now completing a high voltage electrical line into the field.

Type drilling bits used:

Fish-tail or drag bits are universally used to the chalk rock at about 2,000 feet, and rock bits are used continuously thereafter. From 14 to 17 rock bits per well are required.

Casing program:

From 800 to 1,000 feet of 10-inch O.D. casing is set and cemented to protect from upper water sand, and 7-inch or 5-inch oil string is set on bottom or on top of saturated lime section. The 5-inch oil string is most common.

Speed in drilling:

Moving in time, rigging up, drilling, and tearing down time totals about 30 days on the average Lisbon well. A few completions have been drilled in less time.

Drilling problems:

Drilling at Lisbon presents no problems other than those encountered in all deep North Louisiana drilling. The massive anhydrite is encountered about 1,200 feet higher at Lisbon than Rodessa, and this results in harder drilling with some earlier reconditioning of mud. However, due to the absence of gas pressure in the Lower Glen Rose zones at Lisbon, mud does not have to be of such a high gel strength or consistency, resulting in a much easier mud problem.

Method of completion:

The majority of completions are made by setting oil string just above point of saturation, cementing, and acidizing. Some selective completions have been made by setting pipe on bottom, cementing, perforating and acidizing.

Pipe lines:

Gulf Pipe Line Co. has the only pipe line outlet in the field. They extended a 6-inch line from their Perry-Dubberly 8-inch main line from El Dorado, Arkansas, to the coast. Working tanks and gasoline booster station have been erected in the field.

Crude oil analysis

General characteristics:

Lisbon crude: Gravity, 34.5 degrees; flash B.T.R., Visc. at 50° F. 139; Visc. at 100° F. 63; Sulfur 1.1 per cent; color black; overpoint 120. This is a paraffin-intermediate base crude.

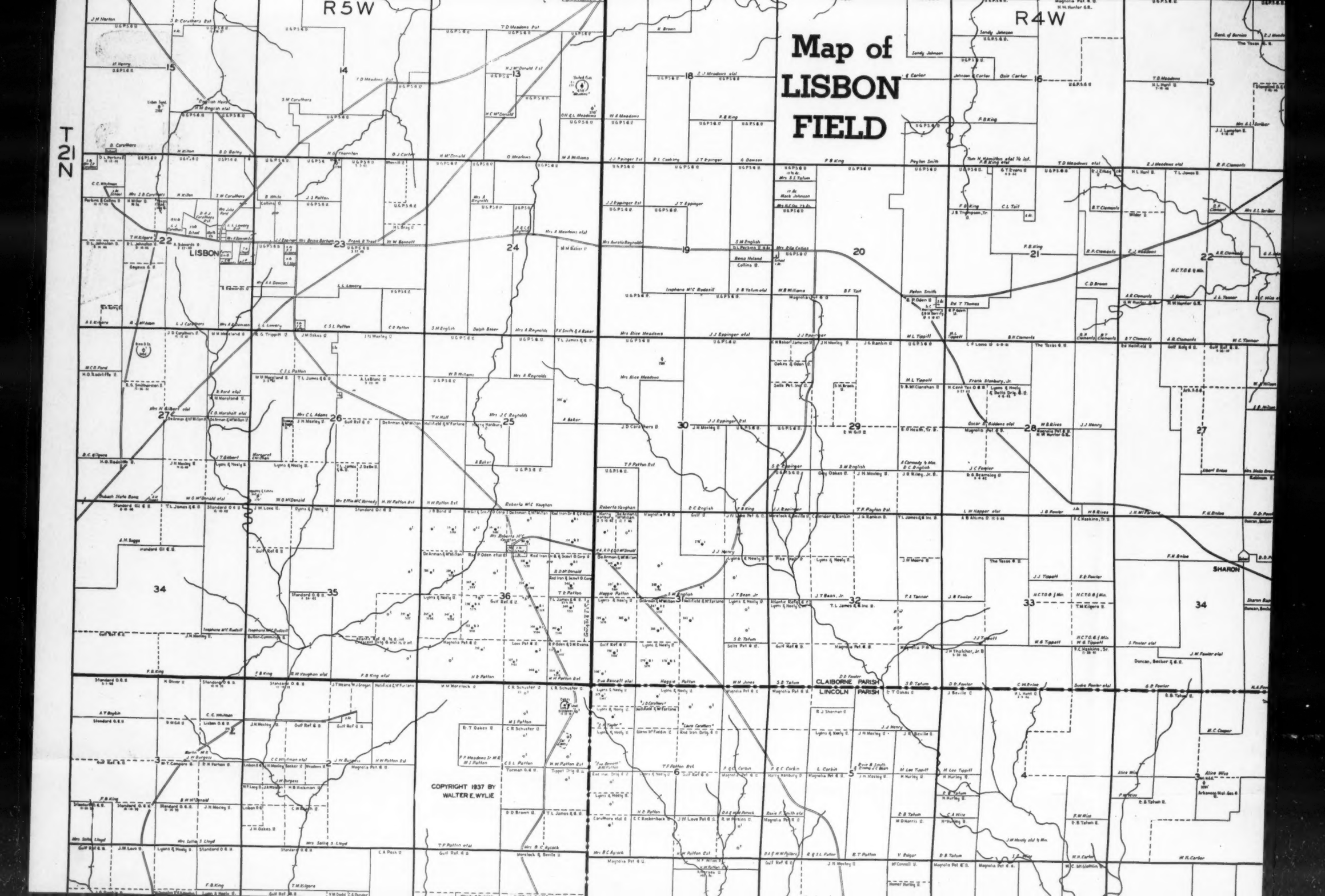
Fractional analysis:

Gasoline, 23.5 per cent; kerosene 14.0 per cent; gas-oil 46.5 per cent; residue 14.5 per cent; loss 1.5 per cent.

Remarks:

A yield of 20 to 30 per cent of high quality paraffin base lubricating oil can be produced from this crude. A dewaxing operation will be necessary to lower the pourpoint, however. From 10 to 15 per cent asphalt can be obtained as a residue when processing lubricating oils.

The straightrun gasoline requires no chemical treatment to meet corrosion, doctor and sulfur specifications. The octane number of gasoline from Lisbon is indicated on tests to be low, and the tetraethyl lead requirement is high on the 400 endpoint gasoline.


Map of
LISBON
FIELD
R5W
R4W
T21N
LISBON
SHARON
CLAIBORNE PARISH
LINCOLN PARISH
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Reaching New Standards

CONTINENTAL TYPE JM ROTARY DRILLING RIG

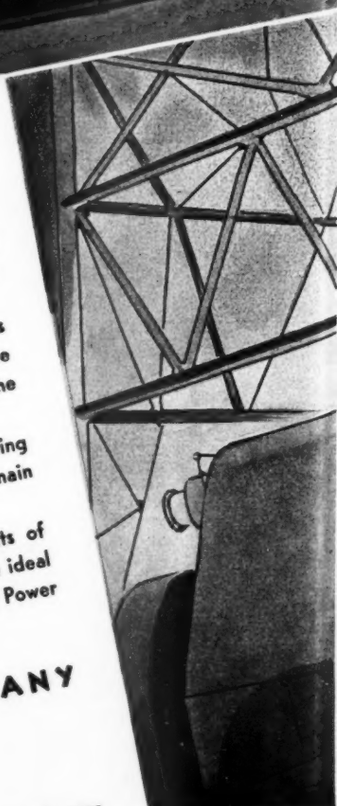
Designed as a complete unit, the Continental Type JM Rotary Drilling Rig is composed of the least number of self-contained units to afford compactness, and also permitting easy assembling and dismantling.

The Emsco Type "J" Drilling Transmission with its shafts, bearings, and drives completely enclosed in a fabriform, dust-proof, oil-sealed case, transmits the power smoothly through Cascade lubricated precision roller chain drives to the Heavy Duty "J" Reverse Clutch and the power slush pumps.

Flexible installation of the equipment is afforded with the design permitting the use of a derrick sub-structure without placing a sub-structure under the main base on which the equipment is mounted.

Up-to-the-minute in every detail, and fulfilling the strict requirements of rotary drilling service, Fairbanks-Morse Model 35-E engines constitute the ideal power plant. Together with the reliable performance of Gardner-Denver Power Pumps, a new standard is established for efficient drilling service.

POWER SPEED CONTROL



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FIELD OPERATIONS

Summarizing the Week's Developments

A Sun Oil Co. well found small gusher production from Wilcox sand at a test in North Wellston field, Lincoln County, Oklahoma. Two wells of Sinclair Prairie Oil Co. and others on the east side of the Moore field, Cleveland County, were checking high and may prove or disprove presence of a fault. The southeast edge of the Oklahoma City pool was extended slightly by a small producer drilled by Sinclair Prairie Oil Co. Ohio Oil Co. had another producer east of the fault in the Edmond field.

KANSAS

Pryor & Lockhart's pool opener northwest of Medicine Lodge in Barber County, Kansas, averaged 48 bbls. of oil an hour on a 12-hour potential test, the wildcat producing 59 bbls. of oil the final hour of the test. Fred Phillips opened a new producing area north of the Welch pool, Rice County. C. R. Craft and associates apparently were opening a new pool in western McPherson County.

ILLINOIS

The second big well in Clay County, Illinois, averaged over 1,270 bbls. per day on an eight-day flow through tubing, partly choked in. A number of good wells were completed in the Patoka field in Marion County. An unusual number of new operations were started in the big Basin area.

ARK-LA-TEX

De Soto Parish, Louisiana, shared interest with southern Arkansas fields with a wildcat in section 36-11-11 producing from Woodbine sand and rated as good for 2,500 bbls. per day. It is 6 miles northeast of the Pleasant Hill field. The largest well yet completed in the Schuler area in Union County, Arkansas, is good for 8,600 bbls. per day. Ten new wells have been started as a result of the extension of the Rodessa field into Miller County, Arkansas. In Coastal Louisiana a prospect in Acadia Parish showed several hundred feet of oil on a drill stem test and is rated as a pool opener.

TEXAS

What is considered the most important discovery of the year in the West Central Texas district is Iron Mountain Oil Co.'s deep lime well in northeastern Jones County, which is showing 400 to 500 bbls. as it stands, but which is expected to greatly increase its production when acidized. It opens a wide field for deep drilling in Jones, Shackelford and Haskell counties. The Carter and Continental discovery well in Gaines County was given a potential of 333 bbls. of oil and 6,650,000 feet of gas on a 24-hour test. Nine new wells in Ector County averaged over 1,000 bbls. each and 12 in Winkler County averaged 900 bbls. each, initially. A new pool and a field extension were reported from Duval County, Southwest Texas district. The new pool is a mile west of the Government Wells field. In Coastal Texas, Harris County is promised a new pool 3 miles north of the prolific Hastings field.

ROCKY MOUNTAIN AREA

A 55,000,000-foot gas well was completed in the old Rex field in Albany County, Wyoming, and in the same county, a 500-bbl. well is in on the Quealy dome. A 475-bbl. well in the Cut Bank field, in Montana, was a feature of that state's results.

Completions in All Fields

(Week Ending July 3, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
N. Y., Pa., W. Va.	71	18	2	91	1,954	1,475
Ohio	13	17	7	37	551	345
Indiana	0	0	0	0	42	86
Kentucky	10	2	5	17	273	115
Illinois	4	0	1	5	37	23
Michigan	12	0	2	14	421	352
Kansas	33	3	8	44	1,219	801
Oklahoma	39	4	17	60	1,461	1,245
Texas:						
North Central Texas	32	0	26	58	1,462	1,281
West Texas	42	0	4	46	1,316	710
Texas Panhandle	13	2	0	15	348	350
East Texas	60	0	1	61	1,100	1,410
East Central Texas	14	1	4	19	359	142
East Texas Border	3	0	0	3	204	32
Gulf Coast Texas	19	1	2	22	747	595
Southwest Texas	37	1	16	54	1,642	1,452
Total Texas	220	5	53	278	7,178	5,972
North Louisiana	16	3	4	23	343	342
Gulf Coast Louisiana	5	0	2	7	236	206
Total Louisiana	21	3	6	30	579	548
Arkansas	2	0	3	5	65	48
Montana	7	0	2	9	91	105
Wyoming	2	1	0	3	48	43
Colorado	0	0	0	0	6	16
New Mexico	5	1	2	8	384	278
Utah	0	0	0	0	1	5
California	25	0	10	35	764	570
Total United States	464	54	118	636	15,074	12,027
Total previous week	477	55	145	677		
Difference	13	1	27	41		

Outstanding Fields—Highlights

(Week Ending July 3, 1937)

Field—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Amelia	6	11	6	3,465	69	4,753
Hastings	2	18	4	2,635	216	14,508
Flour Bluff	4	2	5	825	60	4,500
Saxet	11	29	4	465	476	38,950
North Sweden	3	10	1	205	8	510
East Texas	56	130	60	2,206	23,026	472,000
Talco	8	38	11	3,475	368	35,023
Ector County	11	102	9	9,284	469	23,800
Winkler County	14	60	12	10,946	1,299	44,600
OKLAHOMA						
Oklahoma City	2	9	1	163	1,126	140,575
Fitts	9	47	4	3,198	792	91,500
Olympic	0	7	2	380	365	13,475
KANSAS						
Ellis County	8	33	3	5,900	125	6,755
Reno County	2	26	4	1,800	440	17,875
Russell County	9	65	10	14,900	726	31,850
Rice County	8	65	8	8,800	882	44,320
NEW MEXICO						
Lea County	10	92	5	7,500	2,228	112,850
ARK-LA-TEX						
Rodessa, La.	9	18	3	840	385	49,895
Rodessa, Tex.	2	24	5	1,733	302	38,770
Lisbon, La.	5	16	4	2,870	46	14,210
Schuler, Ark.	4	14	1	548	4	1,645
MICHIGAN						
Buckeye	20	100	12	4,800	152	16,050

Eastern Field Report

By STAFF CORRESPONDENT

IMPORTANT DEEP TEST WILL BE DRILLED IN WIRT COUNTY

PITTSBURGH, Pa., July 5.—A new deep test of importance is starting in West Virginia. In the Tucker district, Wirt County, the Carnegie Natural Gas Co. has a rig standing on the W. O. Caplinger-G. L. Cabot farm for a well scheduled for the Oriskany sand. It is located on Tucker Creek, latitude 39 degrees, 2 minutes 35 seconds, longitude 81 degrees 31 minutes 7 seconds, and the surface elevation is 840 feet. This location is west of the Burning Springs anticline toward the Parkersburg syncline and on a dome in the basin. Four and a half miles due northeast of this location the Belmont Quadrangle Co. has a location on the White farm at the head of Buck Run.

SOUTHEAST OHIO

The best producer for the week in Southeast Ohio is the test of the East Ohio Gas Co. on the J. A. Smith farm in the NE quarter of section 23, Union Township. It was completed in the Clinton sand at a depth of 3,060 feet and was shot, but bridged over. The bridge was knocked out but the tools are fast. It is flowing about 60 bbls. a day.

In Athens County, A. D. Townsend and others completed a test on the James Rodashi farm near Cananville in section 11, Lodi Township, in the Second Berea at a depth of 1,765 feet. It is a gas well gauging a half million feet a day. In section 1, Waterloo Township, the Dixon Farm Oil Co. completed a second test on the Floyd Dixon farm in Berea sand at 1,188 feet. It produced 4 bbls. the first day after shot.

In Belmont County, the Union Gasoline & Oil Corp. completed No. 2 Wenzel Kroky, section 26, Richland Township, in Berea sand at 1,667 feet. It produced 15 bbls. the first day after shot. It had been a former Injun sand well. In the NE quarter of section 6, Washington Township, L. A. Shorts and others completed No. 2 Albert Ramsey in Maxton sand at 1,352 feet. It is a gas well gauging 170,000 feet a day. In the NW quarter of section 14, Pultney Township, Frank Stranges and others drilled a dry hole on the G. Willerton farm through the Gordon sand to 2,579 feet.

In Coshocton County, Clint L. McCord and others completed No. 4 Jesse Lewis in section 23, Clarke Township, in Berea sand at 1,134 feet. It is good for about 2 bbls. a day after shot.

In Licking County, Rutledge & Mossholder Oil & Gas Co. completed No. 7 William E. Teagarden, section 15, Perry Township, in Berea sand at 626 feet. It is showing for a 1-bbl. pumper after shot but produced 5 bbls. the first day. In the SW quarter of section 10, Fallsbury Township, the Emerald Petroleum Co. and others completed No. 4 Mrs. Archie Cochran in Berea sand at 732 feet. It produced 3 bbls. the first day after shot.

In Monroe County, Homer Newhart and others completed No. 5 H. J. Burkhart farm in section 11, Bethel Township, in Second Cow Run sand at 1,080 feet and have a gas well gauging 105,000 feet a day.

In Perry County a very light Clinton sand well was completed. In the SE quarter of section 18, Clayton Township, Mid-East Gas Co. completed a well on the Mary E. Koehler farm in the Clinton sand at 3,180 feet. It gauges only 35,000 feet a day with very little oil showing and may not be shot. Section 11, Reading Township, Pure Oil Co. completed a second test on the Pius Snider farm in Clinton sand at 3,151 feet. It produced 22 bbls. the first day and has a volume of about 115,000 feet of gas a day. It will be shot.

The deep tests of the Natural Gas Co. of West Virginia on the D. Desellem farm in section 26, Wayne Township, and the J. C. Workman farm, a half mile west of the Margaret Jenkins Oriskany gas well in section 28, Madison Township, Columbiana County, are both making progress. The former is nearing the Corniferous lime.

WEST VIRGINIA

Five small oil wells were completed in West Virginia during the week. In Lincoln County, Meabon, Huffman & Dial completed No. 1 Almeda Dial heirs in Sheridan district in Big Lime at 1,600 feet. It is good for about 2 bbls. of very dark oil a week. It is intended to acidize the lime and recondition other wells on the farm. Water has intruded.

In Pleasants County, Perry Riggs completed a test on his fee property in McKim district in the Big Injun sand at 1,632 feet. It is showing for 1½ bbls. a day and 50,000 feet of gas. In this district, Adam Ward and others completed No. 2 Solomon Robinson at 1,716 feet, Keener sand, and it is good for a barrel a day.

In Ritchie County, Mahaney & Lucas plugged back No. 8 J. F. and Laura Kelley in Clay district, reported dry last week, to Salt sand and shot it. It is now making 1 bbl. a day. In Grant district, A. R. Kelley drilled No. 2 fee through the Squaw sand to 1,937 feet and it was dry.

In Wirt County, M. P. Burke completed No. 9 J. L. Showalters farm in Clay district in Injun sand at 1,015 feet. It is good for 1½ bbls. a day.

Gas Wells

The best gas well outside of the deep sands for the week was the second test of the Valley Run Oil & Gas Co. on the Jefferson Miller farm in Center district, Wetzel County. The top of the Big Injun sand was at 2,229 feet with 2,500,000 feet of gas at 2,284-91 feet and the total depth 2,299 feet. The Pittsburgh Coal was at 1,047 feet.

In Boone County, the Owens Illinois Glass Co. No. 30 Peytona Coal Land Co. in Sherman district, at 4,582 feet, gauged 625,000 feet a day from the Berea and Brown shales.

In Braxton County, the Pittsburgh & West Virginia Gas Co. No. 4 W. A. Ramsey farm in Birch district is a small gas well in the Slate at 2,649 feet.

In Cabell County, the Hillcrest Gas Co. completed No. 2 J. Albert Gill in McComas district at 1,328 feet as 116,000-foot gas well.

In Gilmer County, the Massey & Jarvis Drilling Co. completed a test on the Sally Showalters farm in Glenville Independent district at 1,612 feet. Big Injun sand was at 1,524 feet with 149,000 feet of gas a day at 1,612 feet. In this district, the Pittsburgh & West Virginia Gas Co. completed a test on the Hays and King lease in the Big Lime at 1,400 feet as a gas well gauging 2,000,000 feet a day.

In Lincoln County, R. H. Adkins and others test on the Ed Holderby heirs farm in Sheridan district was completed. Brown shale was found at 2,714-3,076 feet with 212,000 feet of gas at 2,980-90 feet.

In Wayne County, the Mountaineer Gas Co. completed a test on the L. M. Bowen farm in Union district at 3,377 feet. The Big Lime was at 1,425-1,597 feet; Big Injun, 1,682-1,750 feet; Berea, 2,255-70 feet; Brown shale, 2,875-3,257 feet with only 35,640 feet of gas.

Oriskany Gas Field

The Oriskany gas pool in Kanawha County was extended. In Union district, the Glenn Oil & Gas Co. drilled the Oriskany sand in the test on the Virginia Joint Stock Land Bank and shot it. Before shot, the gauge was 260,000 feet which increased to 1,375,000 feet 30 minutes after shot and rocked up to only 765 pounds. This test is located 1¼ miles west of Wallace and is 3 miles southwest of the gas well on the B. F. Corke farm in Poca district. It gives a large extension to the field sweeping north towards Sissonville. Although the well is small, it does not appear much lower on structure, subsea, than the more eastern and large wells.

One-half mile south of the G. W. Facemyer well in southwestern Poca district, Guy B. Ray is drilling in the Oriskany sand in the test on the Elmer Thaxton and others lease and it is showing 520,000 feet a day without shot.

In the same district, the United Fuel Gas Co. completed a good well in No. 4,712, on the A. J. Bruen and others lease at a total depth of 5,145 feet, Oriskany sand. The gauge is 10,112,000 feet a day.

In Elk district, the Columbian Carbon Co. is completing two wells. The test on the R. L. Wolfe farm is drilling in the Oriskany sand at 5,198 feet and is showing 431,000 feet of gas and the test on the John Summers, Jr., farm is at 5,202 feet and showing 393,000 feet daily.

Several new locations were made during the week. In Poca district: South Penn Oil Co. on the S. S. Beanne farm 2,400 feet east of the 20,000,000-foot gas well on the J. E. and M. F. Good farm; West Virginia Gas Co. on the E. B. Fisher farm, 1,200 feet northwest of the gas well on the E. C. Humphreys farm; Columbian Carbon Co. on the H. R. Glass farm, 1,600 feet east of the E. M. Burdette farm.

Outside Deep Tests

The test of the Carnegie Natural Gas Co. on the W. C. Patterson farm in Burning Springs district on the Burning Springs anticline is drilling at 4,725 feet and had a showing of very dark oil in the Corniferous lime at 4,704-08 feet. This company's tests on the Walter Hoffman farm and the Hickman farm are drilling at 405 feet and 1,758 feet, respectively. In the latter, there was about 50,000 feet of gas in the shale at 1,608 feet. These two wells are being drilled to test the shale oil found at 2,208 feet in the Patterson test.

In Center district, Calhoun County, the test of Godfrey L. Cabot, Inc., on the Allen Hardman farm, was plugged after drilling through the Oriskany and into the Helderberg lime. In Wirt County, this operator remains shut down in all deep tests.

In Pocatalico district, Putnam County, the test of the West Virginia Gas Corp. on the C. E. Albertson, trustee, farm is drilling at 4,530 feet. In Washington district, Jackson County, the tests of the United Carbon Co. on the Elizabeth W. Perkins farm are drilling at 1,975 and 1,930 feet. In Ravenswood district, W. H. Pettry started the test on the D. O. Curry farm and shut down.

New Work

In the active new gas field in Glenville district, Gilmer County, the following work is noted: Massey & Jarvis Drilling Co. is down 1,033 feet on the Ann L. Lewis farm No. 1; rig material for a test on the F. B. Wilfong farm; drilling 670 feet Smith-Hardman No. 1; Paul Weekly, drilling 1,800 feet No. 1 Clara Woodyard; Pittsburgh & West Virginia Gas Co. drilling at 790 feet on the S. A. Hays farm; Carnegie Natural Gas Co. at 130 in No. 3 Floyd Allen and 910 feet in No. 4.

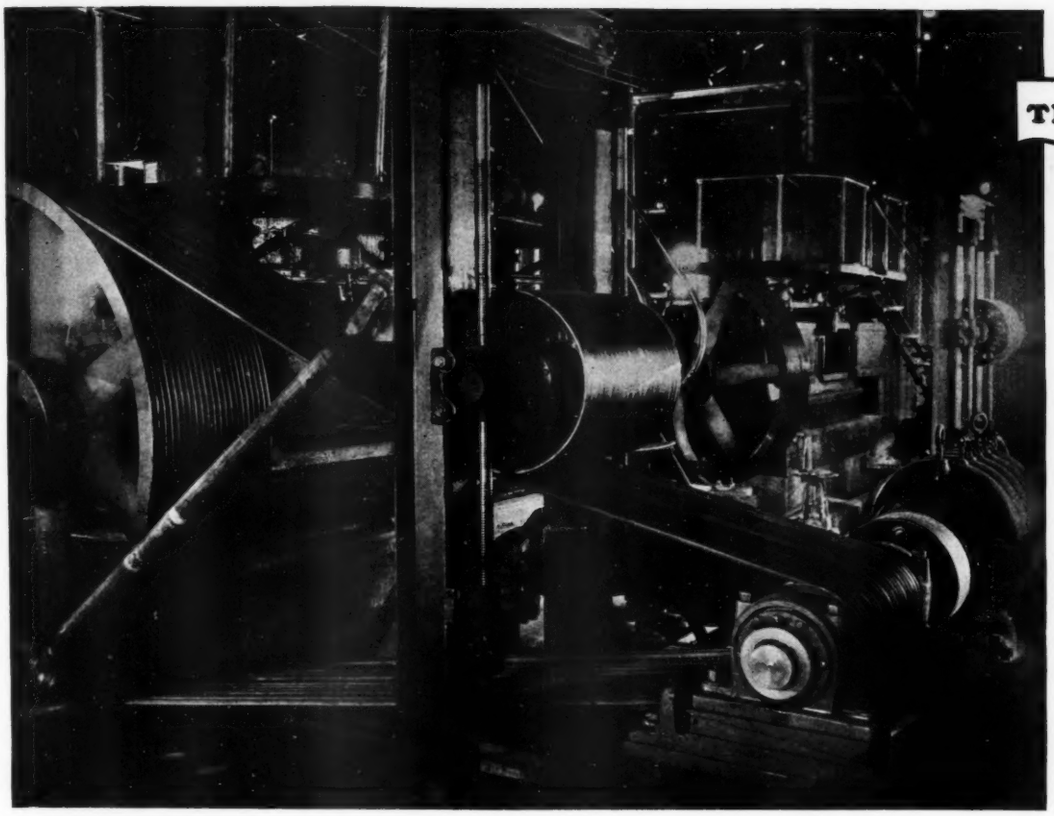
In Upshur County, the Union Gas Corp. has reached 2,220 feet on the Lloyd Tolbott test in Meade district. In Buckhannan district, the Cumberland & Allegheny Co. is down 3,150 feet in the C. F. Lewis No. 1 and 3,710 feet in the Ida M. and T. Smith No. 1.

In Monongalia County, Harry L. Tennant has started a test on the F. D. Jones farm in Clay district. In Cass district, the Convex Glass Co. is drilling at 2,500 feet in the C. H. and Dora Brand test with another location on the same farm.

SOUTHWEST PENNSYLVANIA

In Amwell Township, Washington County, Pennsylvania, Union Gasoline & Oil Corp. completed No. 6 A. O. Vankirk at 3,037 feet. Top of the Fifth sand was at 3,007 feet, with oil at 3,018-20 feet. It is a very light producer before shot. In the same township, the Equitable Gas Co. completed No. 1 Mary Walker at 2,439½

(Continued on Page 90)



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Michigan Field Report

By
O. C. PRESSPRICH

WICKLUND POOL CUT OFF ON NORTHEAST BY 2 DRY HOLES

SAGINAW, Mich., July 5.—Two dry holes defining the northeastern boundary of Buckeye Township, Gladwin County, Wicklund pool, and an eastern midway pool limit featured the week's developments of Michigan's most prolific field.

Unusual to the extent of both dry holes coming in a week of scattered and continued development in all sections of Buckeye, the two nonproducers, still rarities in the field, told operators and geologists their story by the only means yet discovered—to drill and determine the whereabouts of the oil.

The northeastern boundary well, Hyatt & Norton No. 1 Campbell, SW NE NW section 12, which developed as a dry hole, fixes the possible limit to the northeast of the Dundee pay stratum in the Wicklund or North Buckeye pool. While the hole was only two locations north and one east of the Wicklund Development Co. C-1 and C-2 State, which proved below average producers, the Campbell well proved nothing except the belief that the edge of the pay pool had been reached. Formations were reported regular, but oil failed to materialize. Most of the big pay producers in the Wicklund pool are closely grouped in a spot some six locations westward, and approximately the same distance south.

The Fortney Oil Co. No. 1 McMahon-Converse, NW SW NE section 24, was the other dry hole of the week. Located at the eastern limit of the midway pool, and the northernmost location in this field, the hole proves little as to the extent of development in the midway pool, except as a warning that northward or eastward development should be avoided.

While the Fortney well developed a dry hole, Fletcher & Rathburn's No. 1 Shumway, NE SW SE section 24, developed a 150-bbl. daily production after acidizing this week. The Fletcher well is four locations south and one east of the Fortney dry hole in the same section.

Meanwhile midway pool interest far to the westward continued to center on the Archie M. Henry wildcat in SE SW SW section 22. The well is approaching pay at a reported depth of 3,400 feet. Indications continued favorable, according to formations, with results of drilling anxiously awaited to confirm or contradict the theory of a northwesterly trend of the south or Oard pool.

This wildcat venture, as much as George W. Hanner No. 1 Armstrong wildcat the "tattle tale" well in section 23 which opened up the possibilities of the midway field, will determine the future of the field lying between the Wicklund and Oard pools, operators say.

On the southeast fringe of the Wicklund pool, Beaver Trust brought in its No. 1 Thompson, NW NW NW section 13. It gauged at 800 bbls. naturally. The well is one of the best of the week in the north field. It is four locations east and one south of the Wicklund discovery well.

In the Oard south pool Schrott & Schilling No. 1 Nash, SE NW SE section 35, came in as a 250-bbl. producer to extend somewhat the westward boundary of the extreme south pool. The holding is west of Bell & Marx's Lincoln lease, which came in recently. The same company is drilling in another well in SW SE SE section 36, reported at a depth of 3,502 feet late in the week.

Rex Oil Co. No. 1 Foster, NE SW SE section 26, also was drilling in, and was being closely watched as a westerly offset of the north part of the south pool.

Further southward extension of the Oard pool into Tobacco Township, Gladwin County, lying to the south of development, was evident this past week as McClanahan Oil Co. No. 1 Johnson, in section 1 was completing at 3,516 feet. Sun Oil Co. No. 1 Rise in section 2, Tobacco Township, was being cased for completion.

Gordon Oil Co. No. 4-A State, SW SW NW section 36, Buckeye, also was due to hit pay this week.

With the operation on July 1 of the new Buckeye field pipe line recently purchased by Walter L. McClanahan and J. W. Leonard, Jr., capable of handling 6,000 bbls. of oil daily from the field, the 150-bbl. flat proration per well was being closely watched. Effects of the operation of the new pipe line were being scanned to determine whether it actually would relieve the situation or would merely cut into the take of existing lines. While the initial operation of the new line scarely would exceed 4,500 bbls. daily, its effect on the proration curb was to be closely observed. James C. Graves, proration committee chairman, said that no change in the flat 150-bbl. allowable per well per day was contemplated for the present. The pipe line capacity of the field has been increased to 24,000 bbls. daily by the operation of the new outlet.

Arenac County production was affected by a new price schedule announced for Michigan crude effective July 1. The price of crude was set until further notice at $1.21 per barrel for Arenac and West Branch oil. The old price was $1.26.

Five Wildcat Permits

Five wildcat tests are included in the weekly drilling permit list of the Michigan conservation department, carrying the search for oil into Crawford, Roscommon and Bay counties in the north, Livingston County in the south central part of the state and in untried territory in Allegan County, in the southwestern area.

Farthest north of the wildcat tests is that of Dome Oil Development Co. in section 33, Beaver Township, Crawford County, an area hitherto undrilled, but relatively near a series of dry holes to the east and northwest. Another northern test is the C. H. Segar and Swan & Perkins wildcat in section 36 of Nestor Township, Roscommon County. A test which will be watched with interest, on the theory it might catch the northwest-southeast drift of the formations found in the prolific Buckeye field, will be that of Wright & Keeler in Hampton Township, Bay County, about 35 miles southeast of the Buckeye development. The Livingston County well will be that of O. A. Daniels in section 17, Conway Township. The Allegan County wildcat is in Trowbridge Township, adjoining the Salem Township field, with Hubbell Producing Co. making the test.

Buckeye field continues to monopolize the major share of the conservation department's drilling permits, but the current week's list includes only wells in fairly well proved territory of sections 12, 35 and 36.

Days of a dozen years ago, when Saginaw was the scene of Michigan's first oil development, were recalled the past week when the Shields, Kilbourne & Groll wildcat in Fremont Township, Saginaw County, was given a nitroglycerin shot—the first well to have been shot in a long time in any Michigan field. This well got a showing of oil in the Berea sand, but a 30-quart shot failed to bring up oil and the well's commercial possibilities appear small.

Oil Finances at a Glance

Annual reports of 25 leading American oil companies have been compiled in a uniform manner and issued as "Oil Finances at a Glance for 1935 and 1936" by Alexander B. Morris, consulting engineer and statistician of Tulsa. This is the fifth statement of this kind to be issued by Mr. Morris but as it covers the two years, 1935 and 1936, it differs from those previously published which covered one year periods alone. In all, this report covers financial statements of the 25 major oil companies for a period of six years. The reports represent between 65 and 70 per cent of the refinery capacity of this country. In addition to the financial statistics a chart is included showing above ground stocks in terms of number of days which would be required to exhaust them at the demand rate actually existing during the period of their use. These figures were taken from U. S. Bureau of Mines reports. The complete report sells for $5.00 and may be secured from Alexander B. Morris, P. O. Box 491, Tulsa, Okla.

Cities Service Co. pipe yard where double jointing was carried on in connection with the laying of 48-miles of 12-inch gas line from Fitts pool to Seminole, in Oklahoma. From left to right: A. Walsted, timekeeper; O. R. Wynn, yard welding foreman; K. A. Kimball, welding foreman for line and yard; W. Schierlmann, timekeeper

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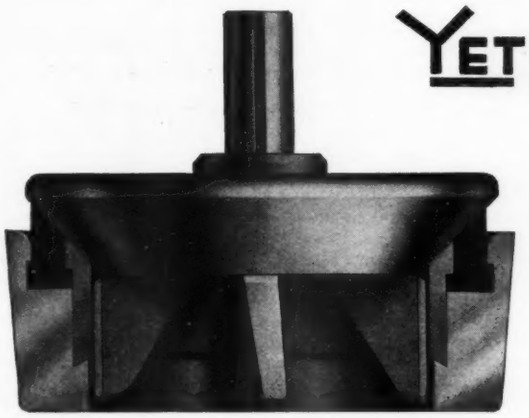

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Southwest Texas District

By GEORGE WEBER

NEW POOL IN DUVAL COUNTY; MANY WILDCAT DRY HOLES

HOUSTON, Tex., July 5.—Duval County again led the Southwest Texas district in new development, with a new oil field, and indications of a major field extension within its borders. The new producing area, west of Government Wells, promises to open new play along the trend. North Sweden, for the past several weeks the most active spot in the Laredo district, indicated a strong continuance of this leadership, with a good extension in a new sand probable as the week ended.

In the Lower Coastal area, an outpost to the prolific Flour Bluff field of Nueces County was commanding considerable attention. Saxet, the most active field in South Texas, scored two discoveries in new sands, as drilling activity showed no sign of a letdown.

Another field of the lower Gulf Coast is becoming a center of activity, as new locations are staked by existing and new operators in the McCampbell field of Aransas and San Patricio counties. Midway, a new field of the latter county, and Agua Dulce, an old field in Nueces County, also showed new developments.

Abandonments were particularly heavy in the wildcats of the Lower Coastal sector during the week, but new tests projected both in that area and throughout the district will sustain the volume of exploration for weeks to come.

The most important discovery was the completion of an oil well in Duval County, bringing in a new field. Although the test has not yet been gauged, plugs were drilled late in the week on the Government Wells Production Co. No. 2 Lundell. The wildcat, located in section 140, more than a mile west of the Government Wells field, is a Cole sand producer.

On a drill stem test made at 1,518-26 feet early in the week, 1,050 feet of pipe line oil was recovered. Seven-inch casing was then set at 1,526 feet and at the last report, plugs were being drilled for completion. The new area appears to be on a separate structure from the Government Wells field proper, for the sand in which it tested oil produces salt water on the west edge of that field. No. 2 Lundell is located 1,164 feet south of No. 1, which was completed three weeks ago for 5,000,000 feet of gas at 1,522 feet.

North Sweden Very Active

The North Sweden field, located in the environs of the town of Benavides, southeastern Duval County, is the most active drilling field in the Laredo district. This activity, centering mostly within the production limits of the new field, shows indications of expanding considerably, as outpost wells develop. Both promising and disappointing results are seen in the week's drilling. Production on the west-southwest appears to be delimited by the failure of the Navarro Oil Co. No. 1 Rossi to core the field sand. The test, located in section 25, Flores grant, 1 mile from the nearest production, is coring below 5,300 feet.

Due south of the field, however, the Standard Oil Co. of Kansas No. 1 Parr has cored a sand at 4,714-48 feet which, upon drill stem test, showed a recovery of 650 feet of oil at 25 pounds working pressure. The test was made with three-eighths inch chokes top and bottom. The sand is not that which produces in the field proper to the north, but corresponds to one which tests gas in the field.

Another test, which has an important bearing on the probable extent of the field, is the King Drilling Co. No. 1 Atlee Parr, an east outpost wildcat, 1 mile from production in the San Andre grant. No. 1 Parr cored sand which showed 1 stand of oily mud in 15 minutes at 5,933-50 feet.

In the field proper, 10 rotaries are actively drilling and others are reported moving in. The only completion for the week was Arkansas Fuel Oil Co. No. 1 Rossi, making 204 bbls. per day on a quarter-inch choke.

New Wells in Flour Bluff

Interest is current in many sections of the Coastal strip. Flour Bluff, one of the most active areas, gained five new oil wells during the week, totaling 825 bbls. per day of initial production. All five wells are owned jointly by the Humble Oil & Refining Co., Barnsdall Oil Co. and Flour Bluff Corp. The field, which is on a peninsula between Laguna Madre and Oso Creek, is expanding to the water limits on both sides, and submerged drilling is anticipated in the near future. Six rigs are kept active by the above mentioned operators, and the total number of producers passed the 60 mark this week.

As the first outpost test of this field, since its discovery, the J. K. Culton No. 1 Singer, 2 miles south of production, has promised interesting results. The wildcat cored a sand at 6,620-70 feet which showed oil and gas. A drill stem test was successful, after several attempts, in recovering 3,600 feet of salt water in 14 minutes at 6,624-70 feet, and the test is being cored deeper. No. 1 Singer is on the peninsula in Lot 13, Block 39, of the Encinal Gardens Subdivision.

Saxet Field

New sand lenses produced oil in one test, and promised production in another in the Saxet field, also in Nueces County. The Hiawatha Oil Co. No. 7 Griffith in Survey 416 made an initial production of 115.67 bbls. per day on a 5/32-inch choke in a new sand cored at 5,332-45 feet. The casing was set at 5,584 feet and perforations were made at 5,533½-43½ feet. The sand had been cored in other Saxet tests, but this is the first which has made a producing well. The No. 7 Griffith is bottomed at 7,230 feet, having failed to find production in any of the deeper Frio sands.

In the southeast section of the field, the Donico Production Co. is exploring another new sand. In No. 9 Donigan, the sand showed 350 feet of pipe line oil at 4,074-88 feet. However, the well, bottomed at 4,501 feet, will be tested in the regular 4,450-foot Clarkwood sand. In the same vicinity, Donico No. 7 Donigan has casing set at 4,305 feet and will test the new sand body which showed in No. 9.

Wildcats in the county fared poorly during the week. In addition to the salt water tested in the Culton No. 1 Singer, three wildcat tests were abandoned. Due west of Saxet, Mills Bennett Production Co. No. 1 Heuerman was dry at 6,403 feet, having found some show of production at 6,308-16 feet, but testing salt water. Southern Minerals Corp. experienced its first dry hole, when No. 1 King was abandoned at 7,564 feet 3 miles north of Agua Dulce. Taylor Petroleum Co. also had a failure in No. 1 Styles, located in the southern portion of the county 8 miles east of Bishop.

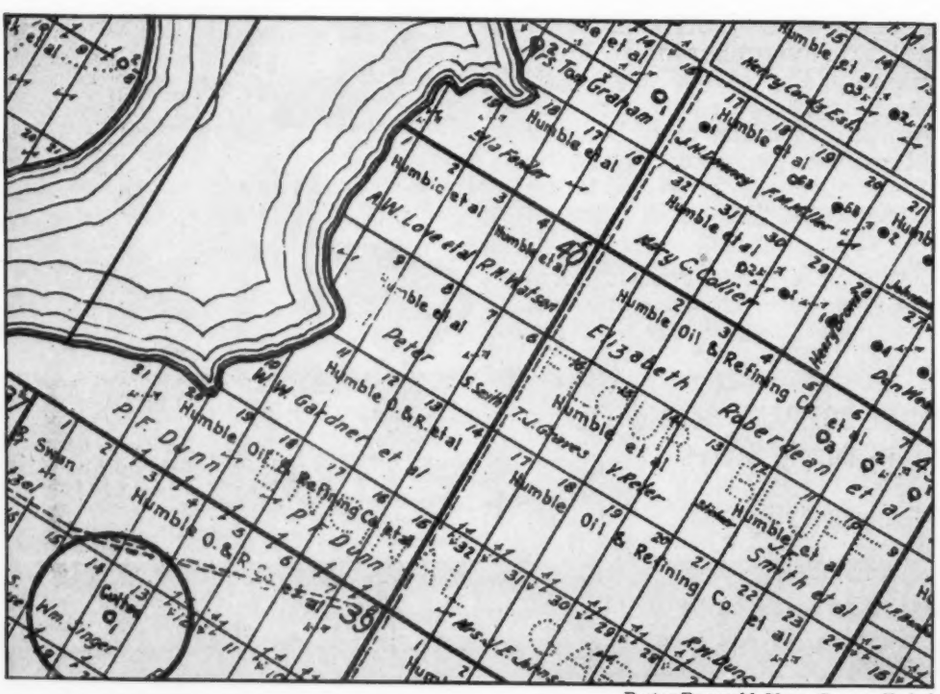
Agua Dulce has two interesting tests active. The United Production Co. No. 1 Harvey is on a sand at 7,380 feet, which shows oil, gas and salt water. Nearby, L. M. Lockhart No. 1 Purl was coring in the same sand body at the end of the week, in search of production in the new horizon.

Aransas County

To the east, in Aransas County, the McCampbell field is showing signs of being one of the most active spots in the district. The past week's total of new locations stood at eight, representing three new operators, Bagdad Production Co., N. W. Bertelson and Peach Tree Oil Co. The principal operators in the field, Atlantic Refining Co. and Buckingham Oil Co. discoverers, have six rigs active at McCampbell.

Developments of a more minor interest showed

(Continued on Page 90)



Porter Regenold, Maps, Corpus Christi

Considerable interest is manifest in the J. K. Culton No. 1 Singer, indicated by the heavy circle. The wildcat is the first to drill in an outpost position to the Flour Bluff field since its discovery. Latest reports from this test showed it testing salt water at 6,620-70 feet where a show of oil and gas was encountered. It is located 2 miles south of the field

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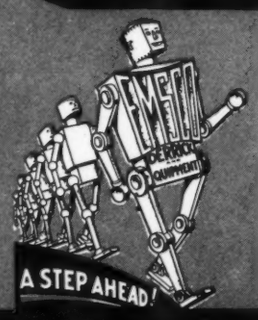

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California Field Report

By
L. P. STOCKMAN

STATE ADOPTS ALLOWABLE RECOMMENDED BY BUREAU

LOS ANGELES, Calif., July 5.—The Central Committee of California Oil Producers at its regular monthly meeting in Los Angeles, June 29, set the July daily production allowable at 605,500 bbls. compared with 603,900 bbls. in June. The increase of 1,600 bbls. was to take care of new production expected to result from the completion of wells in various fields. The July quota is the figure recommended by the Bureau of Mines. Preliminary plans formulated several months ago contemplated a substantial increase in allowables during July, August and September, but overproduction, resulting principally from aggressive drilling in the Wilmington field of Los Angeles Basin, precluded increased quotas throughout the state. Lawrence Vander Leck, chairman of the committee of producers, received a vote of thanks and was reelected. Joseph Jensen was elected vice chairman and Bettye Bohanan was reelected secretary. L. L. Aubert was reelected chairman of the allocation committee.

Wilmington

The Long Beach city council officially placed the Long Beach City Harbor Commission in charge of drilling operations in the Long Beach section of Wilmington field and it, therefore, becomes the duty of the harbor commission to formulate rules and regulations for operators drilling in the new area which was opened up for development at a special election June 15. The territory affected is south of Anaheim Road and west of the flood-control channel. It was indicated that permits for the drilling of new wells would be granted by spot zoning on the basis of not more than one well to each acre and that the state law would be incorporated in the regulatory ordinance when it is adopted. Acreage will include property to the middle of streets and street jumping will be permitted provided the lots within a lease are contiguous. The streets in the tract in question appear on maps only, as they have not been laid out and graded.

There has been a lull in drilling operations at Wilmington, but development work will receive an impetus when the ordinance is approved to permit drilling operations in the eastern end of the field, which lies within the corporate limits of Long Beach. Seven new wells were completed in the Wilmington field of Los Angeles Basin during the week and they showed an aggregate initial daily production of 3,399 bbls. Royalty Service Corp. headed the completion list by finishing No. 5-B Nelson flowing 745 bbls. of 19.3-gravity oil daily and No. 6-B Nelson flowing 660 bbls. of 19.4-gravity oil daily. The former was finished at 3,495 feet and the latter at 3,525 feet. No. 5-B Nelson was completed with 576 feet of 6⅝-inch liner, including 539 feet of 80-mesh screen, and brought in flowing through a seven-sixteenths inch bean.

Pacific Western Oil Co. completed No. 1 Rush Community in the upper zone flowing 205 bbls. of 14.6-gravity oil daily from 2,829 feet. This new well was finished with 274 feet of 8⅝-inch liner, including 236 feet of 60-mesh and was cemented through perforations at 2,58⅝ feet. Macmillan Petroleum Corp. completed No. 2 Hayes flowing 847 bbls. of 18.5-gravity oil initially from 3,625 feet. General Petroleum Corp., discoverer of the Wilmington field, completed No. 11 Ford flowing 672 bbls. of 20.3-gravity oil daily from 3,100 feet. This new well was finished with an 8⅝-inch liner including 503 feet of perforated, and was brought in flowing through an eleven-sixteenth inch bean under a pressure of 670 pounds on the casing. Olympic Refining Co. No. 2 fee was completed flowing 170 bbls. of 16.3-gravity oil daily from 3,412 feet. No. 2 Wilmington of the A. T. Jergins trust has been completed flowing by heads at the rate of 100 bbls. of 18.9-gravity oil daily from 3,469 feet. No. 3 Ford of General Petroleum Corp., which recently proved up the existence of a third zone between 4,915 feet and 5,355 feet, has been killed and the company is making preparations to core ahead.

El Segundo

Ohio Oil Co. is expected to complete two new wells in the El Segundo field of Los Angeles Basin within the next 10 days, as No. 4 Gough has been bottomed in schist at 7,080 feet and No. 5 Gough is drilling ahead in the conglomerate at 7,281 feet. The former encountered the top of the schist at 7,072 feet and has 35 feet of potentially productive oil conglomerate. Standard Oil Co. No. 1 Refinery, a recent completion in the northwest end of the field, has surpassed No. 1 Security of the Texas Co. as the largest producer in the field. It is flowing 2,390 bbls. of 26.5-gravity oil and 1,780,000 feet of gas daily. No. 1 Security of the Texas Co. is flowing 2,201 bbls. of 25.5-gravity oil and 1,070,000 feet of gas. No. 1 Refinery is flowing through a 1-inch bean and a quarter-inch bean, while No. 1 Security is flowing through a twenty-four-sixty-fourths inch bean. No. 2 Security of the Texas Co., in contrast with No. 1 Security, is producing only 151 bbls. of 26.5-gravity oil daily. Rig has been completed for No. 3 Security and the bit is expected to begin making hole within a week.

Kettleman Hills

Standard Oil Co. and the Kettleman North Dome Association each completed a new well in the Kettleman North Dome field and completion of five additional potential producers within the next 30 days is indicated. Kenda's new well was No. 61-4-P in section 4-22-17, which came in flowing 2,464 bbls. of 34.9-gravity oil and 910,000 feet of gas daily. This new producer was bottomed at 8,350 feet and finished with 490 feet of 4¾-inch liner carrying perforations at 7,887-7,967 feet and at 8,047-8,346 feet. In the extreme northwestern end of the field Kettleman North Dome Association has plugged back No. 4-18-J in section 18-21-27 from 10,753 feet to 10,716 feet preparatory to landing a string of 6⅝-inch casing at approximately the latter depth. This well has cored 35 feet of oil sand in formation of Eocene age and shows promise of being completed as a substantial producer. If this well shows favorable production, it will definitely prove up the existence of a deeper productive horizon in the Kettleman North Dome field. It is believed that if this well registers substantial production operators in the Kettleman North Dome field will adopt a drilling moratorium of at least one year's duration in order to keep production under control. Standard Oil Co.'s new well in the Kettleman North Dome field was No. 81-33-J in section 33-21-17. This new producer was brought in flowing 836 bbls. of 34.5-gravity oil and 3,000,000 feet of gas daily.

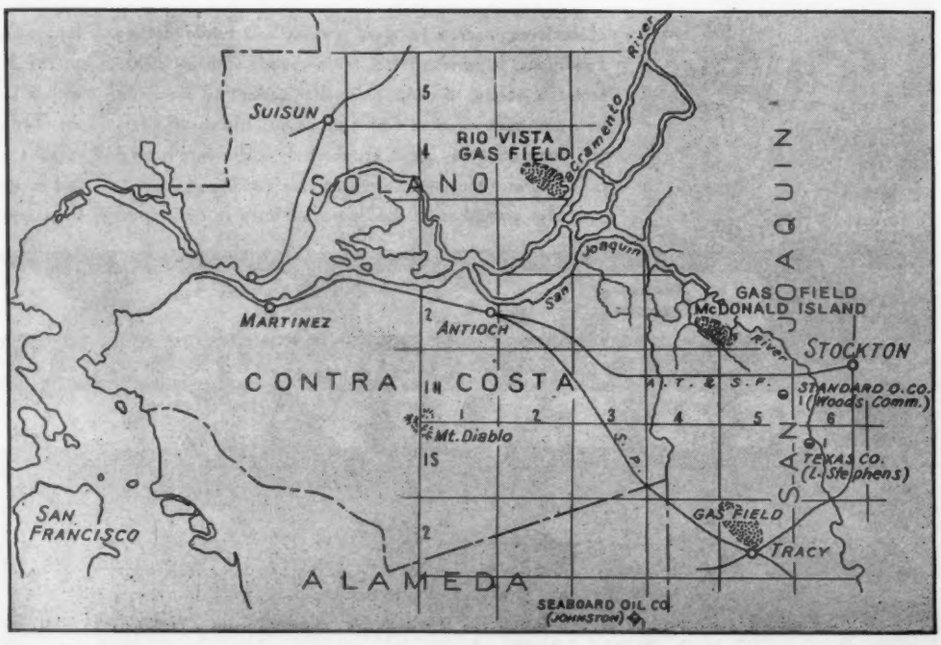
Greeley-Ten Section

In the Greeley field of Kern County, Standard Oil Co. has completed No. 11-5 Kern County Land flowing 327 bbls. of 31.4-gravity oil and 216,000 feet of gas daily. This new well was bottomed at 7,800 feet and finished with 101 feet of 6⅝-inch liner including 56 feet of 60-mesh and was completed flowing through a forty-sixty-fourths inch bean. Standard has two other potential producers nearing completion in the Greeley field and is making preparations to test out some upper showings in No. 12-1 Kern County Land, which was bottomed at 8,496 feet with a bridge at 7,765 feet.

In the Ten Section field of Kern County, Shell Oil Co. has concluded drilling operations on No. 58-A Kern County Land in section 29-30-26 and should be ready for a production test within the next fortnight. In the Canal area Shell is reaming No. 21-A in section 14-30-25 preparatory to landing a string of casing. This well is bottomed at 8,613 feet and the only pipe in the hole up to the present time is 47 feet of 18-inch.

Mountain View

Hogan Petroleum Co., discoverer of the Mountain View field of Kern County, completed No. 3 Symons-Bankline in section 4-31-29 flowing 719 bbls. of 27.4-gravity oil and 510,000 feet of gas. No. 3 Symons-Bank-



Standard Oil Co. and Texas Co. are each drilling a wildcat southeast of the McDonald Island gas field in San Joaquin County on geophysical highs

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line was bottomed at 5,648 feet but plugged back to 5,424 feet and finished with a 5¾-inch liner carrying perforations at 5,215-5,335 feet and at 5,365-5,424 feet. The significance of this new well lies in the fact that it proves up additional acreage of Hogan Petroleum Co. It was completed flowing through a 22/64-inch bean under a tubing pressuring of 420 pounds and a casing pressure of 1,040 pounds and would probably exceed 2,500 bbls. daily if opened up. Ohio Oil Co., which recently completed a new well on the Derby lease in the eastern end of the field and thereby increased its potentially productive acreage, has spudded in No. 2-B Derby, and the bit is rotating below 1,000 feet.

Mount Poso

In the Mount Poso field of Kern County, Shell Oil Co. has completed No. 13 Vedder-Rail pumping 595 bbls. of 16.2-gravity oil. This new well is bottomed at 1,810 feet and finished with 44 feet of 6⅝-inch liner including 22 feet of perforated. No. 20 Security, in the NE quarter of section 16-27-28, was spudded in June 24 and within six days the company had reached a depth of 1,765 feet and cemented a string of 8⅝-inch at 1,763 feet. This well should be ready for a production test within the next few days. Shell's previous completion on this lease was No. 19 Security, which was brought in flowing 640 bbls. General Petroleum Corp. completed No. 7 Heisen in section 16-27-28 and this well was brought in pumping 489 bbls. of 16.3-gravity oil cutting 6 per cent. No. 7 Heisen was completed at 1,722 feet and finished with 161 feet of 6⅝-inch liner carrying 65 feet of perforated. Vanguard Oil Co. completed No. 7 Baker in section 33-27-28 pumping 103 bbls. of 16.4-gravity oil daily from 1,746 feet, but the well subsequently sanded up and the crew was back in the hole effecting a cleanout job. The last completion on this lease was good for approximately 300 bbls. daily and it appears likely that No. 7 Baker will show increased production after the sand and drilling mud have been cleaned out.

Long Beach

Although 16 years have passed since the crew working the graveyard tour of the Shell Oil Co. at Long Beach completed the discovery well that opened up one of California's primary fields and subsequently led to intensive townlot drilling, this remarkable field is still producing 60,000 bbls. a day. The field has produced a total of 586,086,662 bbls. of crude oil and a vast quantity of natural gas and natural gasoline. A few new wells are being drilled in the field in proved areas. Production has already been found in the Miocene, but deeper drilling may ultimately result in additional discoveries.

Midway-Sunset

In the Midway-Sunset field of Kern County, Standard Oil Co. completed two new wells in section 33-32-24. No. 51-33-D pumped 33 bbls. of oil testing 13.6 degrees and 33 bbls. of water with 384,000 feet of natural gas. No. 93-33-D pumped 739 bbls. of 22.8-gravity oil and 15 bbls. of water. The former was bottomed at 2,835 feet and finished with 235 feet of 6⅝-inch liner including 190 feet of perforated. The latter was bottomed at 3,120 feet and finished with 241 feet of 6⅝-inch liner including 196 feet of 60-mesh. Standard's next completion in the Midway-Sunset field is expected to be No. 7-13-D in section 13-32-24, as the bit in this hole is rotating ahead at 3,585 feet. This well should be followed into production by No. 50-33-D, which is rotating ahead at 1,520 feet. The Texas Co. completed an excellent well in the Midway-Sunset field when No. 22 Midway was brought in pumping 646 bbls. of 22.5-gravity oil cutting 2 per cent. This new producer was completed at 3,102 feet and finished with 174 feet of 6⅝-inch liner including 93 feet of perforated.

Los Angeles Basin

Universal Consolidated Oil Co. completed in the eastern extension of the Montebello field a few days ago its No. 1-F flowing 651 bbls. of 37.1-gravity oil and 1,000,000 feet of gas daily from 5,828 feet. This well, because of the quantity involved and high gravity of crude oil, is the best well finished in the area in several months. There is more than 2 gallons of natural gasoline to each 1,000 feet of natural gas. In the East Coyote field Standard Oil Co. has completed No. 2-10 Coyote pumping 212 bbls. of 22.4-gravity oil and 26 bbls. of water from 4,800 feet and should have No. 2-25 Kraemer in the Richfield field ready for a production test within a fortnight. At Richfield the Union Oil Co. completed No. 10 Morse pumping 98 bbls. of 22.4-gravity oil daily from 3,300 feet after the hole had been finished with 410 feet of 6⅝-inch liner carrying 363 feet of perforated and 3,240 feet of 2½-inch tubing.

In the Seal Beach field Standard Oil Co. No. 28 San Gabriel proved a disappointment, as it was good for only 38 bbls. of 26.3-gravity oil and 25 bbls. of water daily from 6,410 feet after the hole had been plugged back from 6,530 feet. In the Torrance field Timco Oil Co. has recompleted No. 6 Woolner pumping 130 bbls. of 26.5-gravity oil cutting 10 per cent from 4,710 feet after the hole had been plugged back from 4,788 feet. Sawyer Oil Co. No. 1 in the Redondo section of the Torrance field was recompleted pumping 50 bbls. of 26.1-gravity oil from 4,559 feet, but the output is cutting about 50 per cent and may require further work. In the Huntington Beach field Lucky Strike Oil Co. finished No. 8 Huntington pumping 72 bbls. of 21.3-gravity oil from 2,700 feet.

Kern County

In the Round Mountain field Honolulu Oil Corp. has completed No. 21 in section 20-28-27 pumping 540 bbls. of 18.2-gravity oil daily from 1,933 feet. The hole was finished with 75 feet of 7-inch liner including 28 feet of perforated. Top of the Vedder sand was logged at 1,875 feet. In section 18-28-27 the company has finished drilling operations on No. 13 at 1,955 feet and this potential producer, which is standing cemented at 1,932 feet, should be tanking oil within a few days. Out on the west front of the Kern River field Republic Petroleum Co. has completed No. 2 Cal Tech pumping 275 bbls. of 14.7-gravity oil from 1,909 feet. This is the second

(Continued on Page 90)

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	June 24		June 17			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	176,726	151,541
Gasoline	102,075	14,582	184,820	26,403	1,713,865	3,083,115
Kerosene	52,411	7,487	.....	.....	250,642	649,430
Foreign exports:						
Crude oil	379,683	54,240	535,822	76,546	6,677,058	4,420,293
Fuel oil	479,971	68,567	449,213	64,173	7,135,463	5,035,005
Diesel and gas oil	301,904	43,129	117,581	16,797	3,508,461	2,807,049
Gasoline	227,933	32,562	124,616	17,802	3,697,189	3,336,841
Kerosene	5,919	846	125,318	17,903	1,100,606	595,079
Other unfinished oil	159,188	22,741	15,060	2,151	576,948	16,894
Coastwise-domestic:						
Crude oil	133,386	19,055	151,206	21,601	3,375,483	3,514,195
Fuel oil	316,290	45,184	240,904	34,415	7,223,026	4,295,310
Diesel and gas oil	14,440	2,063	18,958	2,708	1,085,487	629,366
Gasoline	245,454	35,065	369,665	52,809	6,624,059	6,029,995
Kerosene	2,170	310	7,076	1,011	98,948	119,060

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	152,932	.....
Gasoline	.....	.....	.....	.....	25,778	147,054
Asphalt	.....	.....	.....	.....	141,401	68,586
Lubricants	.....	.....	.....	.....	12,857	27,673
Foreign exports:						
Crude oil	85,420	12,203	.....	.....	1,476,737	1,321,047
Fuel oil	91,298	13,043	49,430	7,061	1,075,516	1,405,398
Diesel and gas oil	138,817	19,831	108,870	15,553	1,508,911	550,617
Gasoline	.....	.....	39,016	5,574	2,511,838	1,589,481
Kerosene	.....	.....	52,433	7,490	355,360	389,174
Lubricants	.....	.....	43,778	6,254	307,142	150,074
Coastwise-domestic:						
Fuel oil	98,116	14,017	206,374	29,482	3,114,336	3,566,886
Diesel and gas oil	26,231	3,747	39,451	5,636	460,693	348,855
Gasoline	107,016	15,288	128,491	18,356	2,187,207	2,477,274
Kerosene	9,869	1,410	.....	.....	84,935	88,330

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier-E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .70	$ .70	$ .70	....	....	$ 70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$ 70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.74	.74	.71	$ .70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1 25	1.18	....	....	....	1 01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1 19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1 23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1 27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1 31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1 35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1 39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

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Among Gulf Coast Drilling Contractors

H. J. DeArman received a contract from Stanolind Oil & Gas Co. to drill No. 1 Fite at the Sandy Point field, Brazoria County, and the test has been spudded. Drilling continues in Jefferson County at the H. B. Hebert wildcat, located in the J. W. McGaffey Survey.

Cron & Gracey have recompleted Fohs Oil Co. No. 1 State Long Lake, the discovery well of a new pool in Lafourche Parish, Coastal Louisiana. On a 24-hour gauge it flowed 425 bbls. of pipe line oil through a 11/64-inch choke. Contract was received for another well at South Houston which will be drilled for Stanolind Oil & Gas Co. In the meantime, the firm's drilling operations continue at Hastings for Stanolind Oil & Gas Co. with three rigs; at Placedo for Shell Petroleum Corp and at Flour Bluff for Humble Oil & Refining Co., and at Rockport, in Aransas County, for the Barnsdall Oil Co.

George Echols has abandoned No. 1 LaWard, a wildcat in Jackson County, at 6,510 feet. It was drilled for Cockburn Oil Corp. and Hargraves. At Heyser in Calhoun County Echols No. 5 Bennett, located in the north extension area, is drilling below 5,500 feet and should reach the pay during the week. Other activity is reported in Marion County and at the Gillis field for Fohs Oil Co.

Harry L. Edwards is preparing to spud Woodley Petroleum Co. No. 1 McMurtay in the recently opened southwest extension area of the Hardin field, Liberty County, and is rigging up at the Hastings field for Humble Oil & Refining Co. Edwards Drilling Co. is rigging up at Dickinson for another test to be drilled for the Coast Petroleum Co. and is preparing to complete Turman Oil Co. No. 2 Maco Stewart, which is bottomed in oil sand below 8,700 feet.

Nicklos Drilling Co. recently purchased a new heavy duty rig which has been moved to the Ville Platte area in Evangeline Parish for No. 1 Tate, which is drilling below 3,300 feet for the Continental Oil Co. Two rigs are operating at Tepetate for Continental Oil Co., while at Valentine three rotaries are running for the Pan American Production Co.

Rowan Drilling Co. is rigging up at the Fairbanks field in Harris County for Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Wright, while another outfit is being moved to the Danbury dome in Brazoria County. Two rigs are running at the Amelia field in Jefferson County for Humble Oil & Refining Co., while another is located on a wildcat prospect near Venice in Plaquemines Parish for Tide Water Oil Co.

Rutherford Drilling Co. is preparing to make a production test at the Van Vleck field in Matagorda County for the Skelly Oil Co. and is drilling two other tests in the same county. One of these is located in the Buckeye field for United North and South Development Co., while the other is drilling for the Royalty Oil & Gas Co. and is below 7,900 feet. The Rudel Drilling Co. and San Patricio Drilling Co., associated companies, have two rotaries operating in the recently opened Midway field in San Patricio County for Phillips Petroleum Co.

Smith & McDannald are moving a large rig to the Charenton field in St. Mary Parish for the Pan American Production Co. and are rigging up at South Houston for Stanolind Oil & Gas Co. Nine other operations are reported as follows: One rig at the Willis area in Montgomery County for Texas Co., two at Long Lake for Tide Water Oil Co., one at Dickinson for Pure Oil Co., two at Hastings for Stanolind Oil & Gas Co., one at St. Martinsville for Tide Water Oil Co. and one at the Motwata area in northern Acadia Parish for themselves and others.

Glenn H. McCarthy is starting a little drilling boom in the Palacios field in Matagorda County with four large drilling rigs that were purchased the past week. Two of them are being moved to the field for No. 1 Palacios State Bank and No. 1 Rohls. He is preparing to spud No. 3 Foley and is drilling below 5,700 feet on Sun Oil Co. No. 1 Bay Shore farms. Other operations are reported at the Amelia field in Jefferson County where he is completing his No. 3-B Longe at 5,401 feet and is drilling two wells for the Humble Oil & Refining Co.

Of the 44 locations reported to the Texas Coast the past week, three were wildcats, all being located in Brazoria County. The Texas Gulf Producing Co. is moving in material for No. 1 W. D. Adams in the H.T.&B. Survey No. 40 while Ohio Oil Co. is scheduled to let contract for No. 1 H. Kempner in the H.T.&B. Survey No. 33. Both wells are located on the Chocolate Bayou Prospect. The other test is located near Alvin and will be drilled by Humble Oil & Refining Co. on the W. B. Munson Survey in the Samuel Carter Survey.

W. R. Boyd, Jr., executive vice president of the American Petroleum Institute, New York, is spending his summer vacation on his farm near Teague, Tex. Mr. Boyd, while in Houston, Tex., the other day, expressed optimism concerning the future of the oil industry and pointed to the enormous gasoline consumption as a business barometer.

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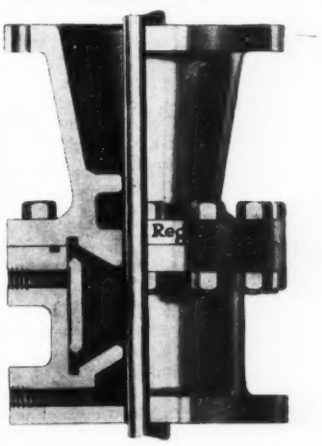

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Rocky Mountain Area

By
T. R. INGRAM

55,000,000-FOOT GAS WELL IN REX LAKE FIELD IN WYOMING

DENVER, Colo., July 5.—Wildcat operations in Colorado attracted attention with one well spudding in Bent County, another location made in Pitkin County and two others reported in prospect in Garfield and Moffat counties. The South Park Oil Co.'s wildcat at Hartsel is showing a change in formation and increase in oil.

In Wyoming, the Ohio Oil Co. completed a 55,000,000-foot gas well in the old Rex Lake field in Albany County and in the same county the Murphy Oil Co. No. 7 Holt, Quealy dome, is flowing 22 bbls. per hour. The Continental Oil Co. No. 4-B Schuricht, in Lance Creek, made 429 bbls. first 24 hours from the basal Sundance.

The Cut Bank field in Montana had three completions, including one dry hole, and four new operations. Glacier Production Co. No. 2 State-16 swabbed 475 bbls. first 24 hours. Model Oils, Ltd., No. 1 Hollam, Pondera County, found water in the Ellis-Madison and blasted hopes of an extension of Cut Bank in that direction. Kevin-Sunburst had five average completions and two new operations.

NEW MEXICO

Ohio Oil Co. No. 2 State-Hansen, C W half SW NE section 16-20-37, Monument field, Lea County, flowed 170 bbls. of oil hourly, with an estimated 1,000,000 feet of gas daily, and was completed. It had pay at 3,814 to 3,868 feet, total depth.

Tide Water Oil Co. No. 1 Day, C NE NW section 6-22-36, South Eunice, was acidized and flowed 528 bbls. of oil daily through tubing. Top of pay was 3,795 feet, total depth 3,851 feet in lime.

Texas Co. No. 4-B Sheppard, C SE section 5-26-37, South Jal area, was bottomed at 3,200 feet in lime, plugged back to 2,960 feet, produced 8,500,000 feet of gas and was completed.

Tide Water Oil Co. No. 1 Marshall, C SW NE section 13-21-36, plugged back from 4,005 feet, where sulfur water intruded to 3,865 feet, was shot, failed to develop production, and was dry and abandoned.

Continental Oil Co. No. 1 Burger, C NW SW section 19-20-38, east offset to the Skaggs discovery well, flowed 52 bbls. of oil in 12 hours through three-fourths inch choke on tubing and was completed at 3,886 feet, total depth. Top of pay was 3,700 feet. It was acidized and shot. Stanolind Oil & Gas Co. No. 1 Turner, C NW NW section 20-20-38, Skaggs area, was abandoned at 4,072 feet in lime, after sulfur water encroached.

Landreth Production Co. No. 2 Grizzell, section 5-22-37, Grizzell area, Lea County, was completed for initial production of 128 bbls. of oil in 14 hours after shot. Top of pay was 3,700 feet. Another completion in this area was F. J. Danglade No. 1 Christmas, C SE NE section 5-22-37, which flowed 227½ bbls. of oil in 16 hours after acidizing. Total depth was 3,735 feet. Gulf Oil Corp. No. 1 Baker, C SE SE section 5-22-37, flowed 54 bbls. of oil in five hours and was completed at 3,732 feet, total depth.

NORTHWEST NEW MEXICO

San Juan County

Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. 620 ft.

Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,785 ft.

Socorro County

R. Allen Brown, Tr., No. 1 Belen Ld. Gr., SE NW sec. 16-2n-1e. Spd. to 65 ft. and S.D. to R.U.R.

Torrance County

Chief O. & G. Co. No. 1 Pace, SE sec. 12-6n-7e. Drlg. hd. gr. sh. 685 ft.; set 8¼-in.

Valencia County

C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. Drlg. L. 625 ft.; S.O.&G. 610 ft.

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. Drlg. below 3,400 ft.; occasional shows carbon dioxide gas.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE cor. sec. 27-3s-64w. T.D. 4,345 ft.; fshg. parted 6¼-in.; all but 200 ft. out; remainder coming.

Archuleta County

The William E. Hughes Estate and Continental Oil Co. No. 1 Burns, unsurveyed land in Township 32n, Range 4e, drilling at 1,040 feet.

Bent County

Indian Terr. Ill. Oil Co. and Olson Drlg. Co. No. 1 Arbes, C Lot 2, sec. 2-21s-48w. Spudded June 26.

Boulder County

J. B. Furstenberg has taken over No. 1 Foote, SE section 20-1n-70w, in the old Boulder field, which has been standing at 200 feet with machine over hole, and is preparing to resume drilling and carry it down to the shale horizon at around 1,200 feet.

J. B. Furstenberg No. 1 Foote, SE sec. 20-1n-70w. T.D. 200 ft.; prep. to resume.

Boulder Prod. & Dev. Co. No. 1 Harlow Est., SE NE sec. 36-2n-71w. T. D. 719 ft.; rmg. to run pipe to bottom.

Fremont County

Utex Oil Co. No. 1, C SE SW sec. 20-20s-69w. Spdg.

Garfield County

It is unofficially reported that a Pennsylvanian test will be drilled on the Marmesa dome. This is expected to be made in the Fulton Petroleum Co. No. 1 Smith, SE NE NW section 8-8s-102, which was completed for 30,000,000 feet of gas in the Dakota at 2,857 feet in 1930. The company had a franchise to supply Grand Junction with natural gas, but the presence of carbon-dioxide in sufficient quantities to make it undesirable for fuel purposes hindered the consummation of the project. Several wells have been drilled on the structure, but none of these tested horizons below the Jurassic. The Gypsy Oil Co. No. 1 Marmesa, SW SW SE section 5-8s-102, was shut in at 3,871 feet. It had a total of 58,250,000 feet from sands in the Dakota and the Morrison. The Sun Oil Co. also drilled a gas well at the same location as No. 1 Smith of the Fulton company.

Roaring Fork Oil Co. No. 1 Patterson, C NE sec. 36-7s-88w. Drlg. below 200 ft.

Kiowa County

Morgan & Flynn et al No. 1 Hostetter, C NW SE sec. 6-20s-46w. Bldg. rig and drlg. water well.

Larimer County

Great West O. & G. Corp. No. 1 Haworth, C SW SE sec. 16-4n-69w. Spudded June 28.

Mesa County

Midwest Drlg. & Dev. Co. No. 1 Callahan, NE NW SE sec. 30-8s-97w. Drlg. below 100 ft.

Moffat County

It is unofficially reported that the Anderson-Kerr Drilling Co. and the Mountain Fuel Supply Co. have signed an operating agreement for the drilling of a joint test on the Shell Creek structure in northern Moffat County located only 3 to 4 miles south of the Hiawatha gas field. No location has been released, but it is reported that it will be on the Earl W. Reader permit in section 1-11n-100w. While Shell Creek is close to the Hiawatha dome, it is understood that they are separated by a fault running in a southwest-northeast direction. The test probably will be drilled this summer and will penetrate the Wasatch formation of Tertiary age from which gas is produced at Hiawatha and oil and gas at Powder Wash, farther to the east. The Anderson-Kerr test in section 17-11n-100w, 4 miles to the southwest of Shell Creek, is on the South Vermilion dome. Some of the Hiawatha gas wells have shown oil in limited quantities during the past two years. Recent reports are to the effect that most of the wells are now making a little oil and causing considerable trouble in producing the gas.

Universal Consol. Oil Co. and Italo Pet. Corp. No. 1 Wanner-Govt., C SE NE sec. 36-12n-98w. R.U.R.

Morapas Pet. Co. No. 1 Coles, SW SW SE sec. 1-3n-92w. Rng. pipe at 1,300 ft.

Mountain Fuel Supply Co. No. 1 Donnell, C SE NE sec. 31-12n-97w. Cg. 5,370 ft.

Anderson-Kerr Drlg. Co. et al No. 1 Denise, C SE SE sec. 19-9n-99w. S.D. 2,500 ft.; W.O. rotary tools.

Anderson-Kerr Drlg. Co. No. 1 Marrs, C SE NE sec. 17-11n-100w. Cmtd. 12½-in. at 105 ft.; drlg. plug.

Texas Co. No. 4 Iles Inv. Co., Lot 7, sec. 23-9n-92w, Iles field. Drlg. 2,659 ft. in Mowry sh.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36n-17w. T.D. 3,960 ft.; standard rig comp.; pulling 4¾-in. to U.R. 6⅝-in. to bottom.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. T.D. 1,718 ft.; shot with 19 qts.; exploded prematurely: C.O. to shoot again.

Park County

The South Park Oil Co. No. 1 Lemar, on the South Hartsel dome, continues to show oil saturation in shale. It is now drilling below 4,730 feet in hard lime and bentonite with considerable free oil being bailed. This apparently is new oil and is of a lighter green color than that above. The hole is about 180 feet below old depth where it sidetracked several joints of pipe. The hole was cemented while drilling by and this shut off several hundred feet of saturated shale which indicated the well might be commercial at that depth.

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. 4,730 ft.

Pitkin County

Pitkin County, in the central western part of the state, in which is located some of the famed mining camps of early days, including the Aspen district, is to have a test for oil. The Glenco Development Corp. is moving in materials for a well on the Frank M. Christiana heirs' permit in the NW NW NW section 9-10s-89w. The structure is known as Coal Basin and the test is located about 12 miles to the southwest of the Roaring Fork Oil Co.'s well now drilling on the Roaring Fork dome in Garfield County.

The operation will be a joint test with the Continental Oil Co., which owns the leases and permits. The well starts in the Mancos and the first objective will be the Dakota, followed by the sands in the Jurassic. Between 6,000 and 7,000 acres are within the contour of the unitized area. Principal permittees in addition to the Christiana heirs are Myrl Gibson, who has the offsetting permit on the west, and George S. Gilcrest. Immediately to the west of the Gibson permit is a large block owned by the Colorado Fuel & Iron Co., which is included. The block is close to the town of Redstone, where the Colorado Fuel & Iron Co. built a model camp a number of years ago and where J. C. Osgood, president of that company, built one of the finest estates in the west.

The Glenco company is a Colorado corporation. Its directors are R. S. McIlvaine, president of the Rainbo Bread Co., of Denver; J. W. Crapsey and Graham H. Wieland.

Rio Blanco County

Texas Co. and California Co. No. 1 Unit, SW SE NW sec. 35-3n-94w. Ready to spud.

LaPlata County

Nick Spatter No. 1 Bryce, SE SW SW sec. 31-33n-9w. T.D. 150 ft.; U.R. 12½-in. to S.O.W. at 42 and 102 ft.

WYOMING

Albany County

The Ohio Oil Co. has completed a 55,000,000-foot well in the Shannon sand at a total depth of 1,618 feet

on the Rex Lake dome in its No. 4 Coughlin, SW NE SW section 26-16n-77w. Oil was discovered on this structure in 1933 in the Muddy sand at around 3,000 feet. It had a gravity of 35 degrees, but was low in gasoline content. Next year the marketing of oil began and up to the end of 1935 the field had produced 221,665 bbls. Two wells were on production at the close of 1935. There was no production reported in 1936. The Ohio company controls practically all the acreage on the structure, which is located 10 miles southwest of the Quealy dome.

The Murphy Oil Co. has another completion in the Quealy field in its No. 7 Holst, NE NE SE section 13-17n-77w. It was drilled to 3,797 feet, on top of the Sundance, where casing was cemented and then perforated to produce from the Dakota horizon until such time as it is desired to drill into the Sundance. At this depth it is flowing 22 bbls. per hour, or at the rate of 528 bbls. per day. It is an east offset to No. 6 Holst, which was completed in the Sundance at 3,961 feet for 9 bbls. per hour, and a north offset to No. 5 Holst, which was rated at 216 bbls. per day from the Dakota.

Hal Blakeman No. 1 Chapple, C NE NW sec. 33-21n-67w. T. D. 1,681 ft.; installing heavier equip.
Murphy Oil Co. No. 1 Holst-Woolf, NW NW NW sec. 19-17n-76w. T.D. 4,067 ft.; tstg. Dakota through perforated 7-in.
Murphy Oil Co. No. 4 Wilson, NW NW SW sec. 18-17n-76w. Drlg. 2,250 ft. in sh.

Big Horn County

The Yale Petroleum Corp. has begun running oil from its wells in the Garland field through its new 8-mile line from the field to Lovell.

Big Horn Pet. Trust No. 1 Parker, C SW SW sec. 23-49n-89w. Drlg. 1,296 ft.
Yale Pet. Corp. No. 1 Stock-Jones, SE cor. Lot 52-56n-97w. Drlg. 3,084 ft.; top r.b. 2,958 ft.
Ohio Oil Co. No. 2 Byron-Baker, SW NW sec. 23-56n-97w. Drlg. 2,559 ft.
Ohio Oil Co. No. 1 Pryde, C SW SE sec. 24-56n-97w. Drlg. 3,655 ft.
Ohio Oil Co. No. 1 Smith, NE cor. Lot 61, sec. 33-56n-97w. T.D. 4,094 ft.; cmtd. 7-in. at 4,000 ft.; cd. nearly 100 ft. of sat. Madison lime.
Woods-Callahan Oil Co., Ltd., and Wyoming O. & R. Co. No. 1 Evans, NE NE NW sec. 12-44n-91w. Drlg. 1,590 ft.

Campbell County

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74w. Drlg. 500 ft.

Carbon County

The Sinclair-Wyoming Oil Co. is renewing operations on the Wertz dome, where it made an oil discovery late last year in the Tensleep of Pennsylvanian age. The discovery was its No. 10 Government, SW SE NW section 7-26n-89w, which was completed in the Tensleep at 5,869-83 feet and average 75 bbls. per hour on a five days' test. The oil tested 30 gravity. Efforts to drill deeper were unsuccessful on account of being unable to kill the well and it was shut in until certain improvements at the Parco refinery could be completed. The refinery changes to handle this grade of oil have been under way for some time. The new well is its No. 11 Government, an offset on the northwest of the discovery.

Sinclair-Wyoming Oil Co. No. 11 Wertz, SE NW NW sec. 7-26n-89w. Drlg. below 1,000 ft.
Ohio Oil Co. No. 1 Wyo. O. & G. Co., C SE SW sec. 29-27n-89w. M.I.M. for test to Shannon sd. on Bunker Hill dome (first report).
Producers Oil Co. No. 1, CNL sec. 14-20s-88w. Drlg. 194 ft.
Ohio Oil Co.-California Co. No. 5 Cronberg-U. P., C NW NW sec. 25-21-79w. Drlg. 697 ft.
Ohio Oil Co. No. 1 Union Pacific, C NW NW sec. 20-21n-80w. Ready to spud.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE sec. 26-21n-79w. Drlg. 1,362 ft.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. T.D. 2,347 ft.; P.B. to second Sundance at 2,140-80 ft.; shot with 40 qts.; tstg.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. S.D. 5,446 ft.
Ohio Oil Co.-Medicine Bow Oil Co. No. 1 U. P.-Wister, C NW SW sec. 17-22n-78w. Drlg. 1,390 ft.
Ohio Oil Co. No. 8 Dixon, SE NE SE sec. 34-20n-78w. Drlg. 5,245 ft.

Converse County

Elbe Oil Ld. & Dev. Co. No. 1 Benham, NW NE sec. 5-31-70w. M.I.M. (first report).
Tom Carney No. 1 Beaver, SE SE SW sec. 28-35n-68w. M.I.M.
Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. Drlg. 3,600 ft.

Fremont County

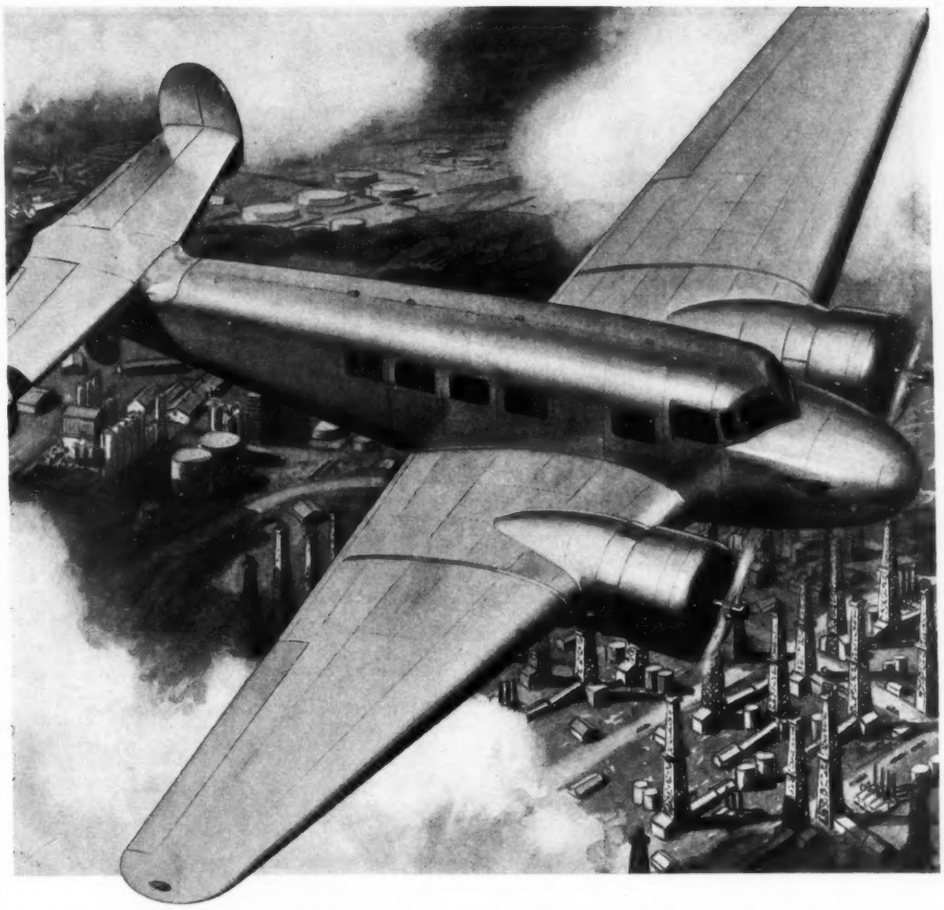
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. S.D. 7,313 ft. to acd.; will D.D.
H. Kenyon Burch No. 1 Enos, CEL NE NE sec. 28-3n-1w. S.D.O. 970 ft.; no shows.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. Drlg. 115 ft.

Johnson County

Carter Oil Co. No. 3 Rider, C NW SE sec. 17-48n-82w. Drlg. 4,695 ft. in Morrison.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will test S.O. in lenticular sd. at 397-401 ft.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-11w. T.D. 1,000 ft.; U.R. 10-in. to bottom.



WHEN TIME FLIES TOO FAST FOR TIME TABLES

A decision on the ground may be needed in Texas oil fields . . . while a labor situation calls for immediate personal attention in the West . . . or a regional sales meeting can't be missed down in Miami. Such emergency demands on the executive's time become routine with a company owned Lockheed airplane. Independent of time tables he makes his own flight schedules, saving hours or even days. ★ Just as Lockheeds are owned by more famous fliers than any other ship so are corporations buying more Lockheeds for executive use than all other transport makes combined. ★ A query on your letterhead brings details of the Lockheed Electra transport or the Lockheed 12 executive model and how they can fit into your business scheme. ★ LOCKHEED AIRCRAFT CORPORATION, Burbank, Calif. New York, 614 Chrysler Bldg.; Chicago, 2353 Field Bldg.; Dallas, Love Field.

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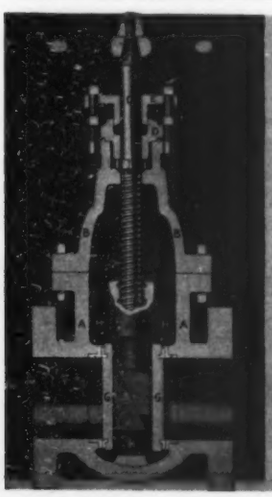

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TROY, NEW YORK

Natrona County

Stanolind O. & G. Co. No. 1 T.P., C NW SE sec. 26-40n-79w. Drlg. 2,725 ft.
Wyalta Oil Co. No. 4 Govt., NW NW sec. 5-29n-81w. Cmtd. 6⅝-in. on top Sundance at 1,082 ft.; rng. 2-in. tbg. to test at 1,030-72 ft.
Wyalta Oil Co. No. 5 Govt., SW SW sec. 30-30n-81w. Tstg. at 1,021 ft.
Wyalta Oil Co. No. 6 Govt., NE SE NW sec. 5-29n-81w. Cmtd. 10-in. at 704 ft.; Dakota at 565-664 ft.

Niobrara County

The Continental Oil Co. No. 4-B Schuricht, NW SW SE section 6-35n-65w, on the southwestern edge of the Lance Creek pool in the Sundance, was completed for 429 bbls. first 24 hours. It was drilled to 3,978 feet and then cemented off the last 10 feet of sand before testing. The basal Sundance was topped at 3,888 feet and the 7-inch was cemented at 3,877 feet. The elevation is 4,418 feet.

Ohio Oil Co. No. 2 Taylor-O.P.C-32, NW NW SW sec. 3-35n-65w. Drlg. 2,835 ft.
Ohio Oil Co. No. 2 Leo O.P.C., NE NE SE sec. 35-36n-65w. R.U.R.
Ohio Oil Co. No. 1 Leo-O.P.C.-7, NW NW SE sec. 35-36n-65w. Drlg. 2,579 ft.
Ohio Oil Co. No. 10 Lamb-Acct. 2, C NE SE sec. 5-35n-65w. R.U.R.
Continental Oil Co. No. 1 Leach, SW NE NE sec. 29-36n-64w. Drlg. 1,873 ft.
Argo Oil Co. No. 4 Ford, SW NW SE sec. 33-36n-65w. Drlg. 2,000 ft.
A. B. Cobb and Holly Dev. Co. No. 2 Novick, SE SE SW sec. 6-35n-65w. Drlg. 4,860 ft.
Continental Oil Co. No. 8 Otto Rohiff, SW SW SE sec. 31-36n-65w. Spdg. 40 ft.
Continental Oil Co. No. 10 Tom Bell Cattle, C SW NW sec. 34-36n-65w. Drlg. 5,012 ft.
MacKinnie Oil & Drlg. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. Drlg. 4,060 ft.
J. M. Huber Corp. No. 1 Lamb, SE SE SW sec. 27-36n-65w. S.D. 2,725 ft.

Park County

Resolute Oil Co. No. 1 Northern Pacific, C NE NW sec. 21-57n-101w. R.U.R.
Kinney-Coastal Oil Co. No. 3 Govt., SW NW NE sec. 24-56n-97w. Drlg. in Amsden 4,344 ft.
Resolute Oil Co. No. 1 Govt., C NE NE sec. 20-57n-101w. Drlg. 4,800 ft.
Texas Co. No. 4 Sonners, SE cor. sec. 29-51n-100w. T.D. 121 ft.; cmtd. 13⅜-in. at 102 ft.
General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. T.D. 6,076 ft.; P.B. to Tensleep; C.O.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Resuming at 2,385 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Stone, C SW SW sec. 18-19n-103w. Drlg. 3,540 ft.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SE NE sec. 29-15n-104w, S of Baxter Basin. Loc. (first report).

Weston County

Big Indian O. & D. No. 1 George, SW SE NW sec. 26-48n-64w. R.U.; contr. John Brorby.

MONTANA

Big Horn County

Big Horn O. & G. Co. No. 31, CWL SE NW sec. 23-1s-33e. Drlg. 625 ft.
Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. S.D. 3,950 ft.

Blaine County

Nadeau Bros. No. 1 fee, NW NW SE sec. 33-34n-17e. Cmtd. pipe at 525 ft. to S.O.W. in Eagle sd.

Carbon County

R. C. Tarrant No. 1 Heare, CWL NE NW sec. 14-6s-19e. R.U.R.; (first report).
Ohio Oil Co. No. 16 Kirt, C SE SE sec. 4-7s-21e. Drlg. 2,987 ft.

Carter County

Tower Oil Trust No. 1, C SW NW sec. 8-9s-61e. Spdg.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. Asked for bids from rotary contractors to deepen from 620 ft.

Fallon County

Nagasco Corp. No. 1, SE sec. 24-5n-6e. Drlg. 720 ft.

Glacier County

The Cut Bank field had three completions, of which one was a dry hole, and four new operations. The best well, which is above the average, was the Glacier Production Co. No. 2 State-16, SW cor. section 16-33n-5w, which swabbed 475 bbls. first 24 hours at 2,957 feet, total depth, after running a Roe underdigger and enlarging the hole to 10 and 12½ inches. The Sunburst sand was dry at 2,853-93 feet and the Cut Bank was at 2,910-53 feet. Elevation is 3,870 feet.

Texas Co. No. 2 Hardwick, C NE SE section 17-32n-5w, had 1,000 feet of oil from the Cut Bank at 2,950-79 feet. It was shot with 30 quarts and oil rose to 1,800 feet. It has not yet been tested.

A. E. Wilkinson No. 3 All.-127, C SE SE section 1-33n-6w, was dry in the Sunburst at 2,978-85 feet and the Cut Bank at 2,985-99 feet and will be abandoned.

Glacier Prod. Co. No. 1 Long, CWL NE NW sec. 22-32n-5w. Loc.; (first report).
Glacier Prod. Co. No. 1 Morgan Unit, NE NE SE sec. 33-34n-5w. Bldg rig; (first report).
Hannah-Porter No. 4 All.-130, CWL SW SE sec. 6-32n-5w. Spdg. 80 ft.; (first report).

Santa Rita O. & G. Co. No. 1 Lahr, C SE SE sec. 27-33n-5w. R.U.; (first report).
Glacier Prod. Co. No. 1 Barrington, 820 ft. from N line and 2,640 ft. from W line, sec. 19-33n-5w. Drlg. 230 ft.
Glacier Prod. Co. No. 1 Connolly A-20, C SE SE sec. 30-34n-5w. Drlg. 1,895 ft.
P.M.K. Co. No. 3 Haglund, Sr., SE NW NE sec. 14-34n-6w. Drlg. 2,390 ft.
Wm. Hanlon No. 3 All.-128, CWL SW NE sec. 12-32n-6w. Drlg. 850 ft.; 10¾-in. at 610 ft.
Texas Co. No. 2 Tweedy, C NE NW sec. 21-35n-6w. Drlg. 1,615 ft.; Colo. 675 ft.
A. B. Cobb No. 5 Walburger, C NE SE sec. 35-35n-6w. R.O.G.; (first report).
Grant Oil Co. No. 1 Rueffen, C SW SE sec. 5-32n-5w. Drlg. 410 ft.
Montana Headlight Oil Co. No. 5 Britton, SE SW NE sec. 14-34n-6w. T.D. 2,886 ft.; cmtd. 8¼-in. at 2,880 ft.
R. C. Tarrant No. 4 Reickhoff, NE NE SE sec. 22-32-6w. Drlg. 2,410 ft.
K. D. Pardee No. 1 Corrigeaux, NE NE SE sec. 35-34n-6w. Cmtd. 7-in. at 2,960 ft.; drlg. in.
A. R. Pardue No. 1 Anderson, C SE SW sec. 31-32n-5w. T.D. 2,740 ft.; recmtg. surf. pipe.

Petroleum County

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 819 ft.
O. B. Canfield No. 1 Govt., CEL SE NE sec. 21-17n-24e. Rng. 3-in. to set at 750 ft.

Pondera County

Model Oils, Ltd., No. 1 Hollam, NW cor. section 12-28n-6w, 7 miles southwest of Valier, a wildcat seeking a southern extension of the Cut Bank field, had 300 feet of sulfur water in the Ellis-Madison contact at 3,139-59 feet, and is being abandoned. It had a show of oil in the Cut Bank at 2,920-76 feet.

Roosevelt County

John W. Schmidt et al No. 1 Frue, NW NW NE sec. 21-28n-50w. Drlg. 600 ft.

Toole County

The Kevin-Sunburst field chalked up five completions and two new operations.

William McKnight No. 2 State, NW cor. section 16-35n-2w, made 75 bbls. per day initially at 1,615 feet, total depth, after acidizing. Contact was at 1,602 feet.

F. C. Platt No. 1 Roseth, SE SE NE section 35-35n-3w, on the west side, made 50 bbls. per day from the Ellis at 1,528 feet, total depth, from sand at 1,525-28 feet, after acidizing with 500 gallons.

Gus Blaze No. 5 Burwash, CSL NE SW section 15-34n-1w, made 3 bbls. per day from the Ellis at 1,525-28 feet.

Leo Sweeney No. 5 Davis, NW NE SW section 27-35n-3w, looked like a big well and flowed over the top of the rig from the contact at 1,650-52 feet, and was shut in with control head. When opened up the next morning it had gone dead. It was then deepened to 1,558 feet and oil rose only 6 feet. Water poured into the well while experimenting disappeared, indicating that the oil came from a crevice.

Adlon Oils, Ltd., No. 1 Ward, C NW SE section 29-37n-3w, made 35 bbls. per day before acidizing at 1,648 feet, total depth.

Hardrock Oil Co. No. 1 Govt., SE NW NW sec. 11-35n-3w. Drlg. 350 ft.; (first report).
Texas Co. No. 11 Bruin, SE cor. sec. 9-35n-2w. Ready to spud; (first report).
Texas Co. No. 6 Swears, NW NE SW sec. 9-35n-2w. T.D. 962 ft.; rng. 8⅝-in. cave string.
A. Beardslee No. 7 Swears, NE SW NW sec. 9-35n-2w. Drlg. 1,300 ft.
Lamont Pet. Co. No. 3 Van Note, CNL NW NW sec. 30-35n-2w. S.D. 105 ft.
Prevol & Shea No. 1 Porter, CSL NW NW sec. 12-34n-3w. Drlg. 1,491 ft.; gas in Sunburst at 1,232-70 ft.
Nepstad et al No. 2 Haugen, C NW NE sec. 11-35n-3w. Drlg. 1,500 ft.
Big West Oil Co. No. 4 McDonald, CNL SE SW sec. 19-35n-2w. T.D. 1,545 ft.; contact 1,527 ft.; acdzg.
New Era Fuel Co. No. 1 Goeddertz, CWL NE SW sec. 2-35n-3w. T.D. 1,813 ft.; contact 1,792 ft.; dry; P.B. to test Sunburst; tstg.
A. C. Crumley No. 12 Shaw, SE NE NW sec. 35-26n-2w. T.D. 1,617 ft.; shot Sunburst at 1,568-1,608 ft.; 40 qts.; C.O.
E. C. Carney No. 2 Stockman, CSL NW NE sec. 11-35n-2w. T.D. 1,521 ft.; rng. 7-in.; Sunburst at 1,400-10 ft.; dry.
Security Oil Co. No. 1 Kopsing, CWL SW SE sec. 24-34n-2w. Loc.; (first report).
Capitol Oil Co. No. 1 Pace, C SE SW sec. 27-36n-1w. Rng. 5⅛-in. to top Sunburst; S.O.
S. V. Day No. 3 Halter, NE NE NE sec. 17-35n-2w. T.D. 850 ft.; rng. 7-in.
Watson et al No. 2 Leach, SE NE NE sec. 31-35n-3w. S.D. 1,796 ft.
Browning-Sunburst 32 Synd. No. 1 Goeddertz, NE NW SW sec. 21-36n-3w. T.D. 1,670 ft.; U.R.
Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier mach. to resume.
Ogden-Kevin Oil Co. No. 7 Zachot, SE SW NW sec. 20-35n-1w. S.D. 900 ft.
Treasure State Oil Co. No. 4 Shaw, SW NE NE sec. 35-36n-2w. T.D. 1,571 ft.; shot with 80 qts.; not tested.
Eagle Pet. Co. No. 1 Haugen, C SE NW sec. 12-35n-3w. T.D. 1,585 ft.; Sunburst 1,522-36 ft.; not tested.

Outside Kevin-Sunburst

Model Oils, Inc., No. 1 Fey, NE SW sec. 5-37n-3e. Drlg. 170 ft. in 20-in. hole.
T. P. Kyle No. 1 Kielbaugh, CWL SW SW sec. 2-37n-1w. Bow and Arrow dome. Drlg. 1,650 ft.

Yellowstone County

Western Dakota Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. S.D. 450 ft.

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Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. Drlg. 335 (C.D.) ft.; S.G. 235 ft.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Lauzier, CNL NW NW sec. 27-3n-24e. Drlg. 5,468 ft.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. S.D. 6,715 ft.; M.I. heavier rot. equip.
Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. S.D. 2,265 ft.; to erect standard drk.
Cane Creek Oil Co. No. 1 Govt., NW SW sec. 31-26n-21e. T.D. 60 ft.; driving 17-in. condr. pipe.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56e. Drlg. 2,915 ft.; to go to Sundance.

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Drlg. 2,572 ft.

Keith County

Twentieth Century Oil Co. No. 1 Stuken, C NW NW sec. 21-14n-37w. Drlg. 110 ft.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. S.D. 1,805 ft.

Jefferson County

L. R. Page et al No. 1 Bonham, C SE SE sec. 1-1n-1e. Spdg.

Canadian Oil and Gas Surveys

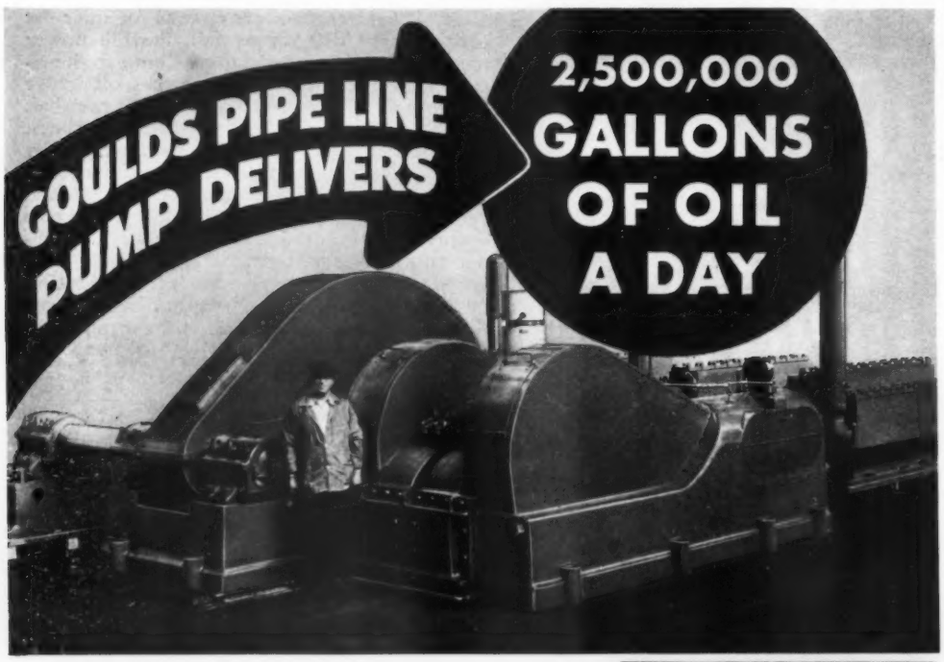
Details have been made public of the work planned for the coming summer by the Geological Survey of Canada and the Federal Mines Department in oil and gas investigations in western Canada. Dr. G. S. Hume and party will investigate and remap the geology of the west flank of Turner Valley and will also work from the Sarcee Indian Reserve near Calgary south to the north end of Turner Valley. Doctor Hume will also complete work begun last year in the Pekisko Hills area south of Turner Valley. Farther north the oil possibilities of the Fallen Timber area between the Bow and Red Deer rivers, 70 miles northeast of Calgary, will be examined by B. R. McKay and party. Two wells are now being drilled in this area. R. C. McDonald and party will map an 800-square-mile section of the Bragg Creek and Jumping Pound areas west of Calgary, where some drilling is being done. South of the Highwood River, E. P. DuVernet and party will cover an area extending eastward 35 miles from the British Columbia boundary. In southeastern Alberta L. S. Russell will investigate gas and oil structures. A survey will be made by R. T. D. Wickenden and J. W. Spence of an area from the Saskatchewan boundary west to Milk Creek and from Foremost south to the Montana line.

R. W. Landes will examine the area along the Manitoba-Saskatchewan boundary south of the Hudson Bay Railway, as well as an area in Saskatchewan south of Hudson Bay Junction and along the border. He will also investigate the adjoining section of Manitoba from Red Deer Lake south to Swan River.

Rocky Mountain Runs

Estimated daily average production for week ending July 3.

WYOMING	
Salt Creek	16,200
Big Muddy	1,380
Badger Basin	210
Black Mountain	170
Dallas Derby	560
Dutton Creek	50
Elk Basin	30
Frannie	200
Garland	2,780
Grass Creek	1,650
Hamilton dome	1,520
Hidden dome	360
Hudson	250
La Barge	1,000
Lance Creek	11,090
Lost Soldier	1,290
Medicine Bow	3,100
Midway	30
Oregon Basin	2,550
Osage	890
Pilot Butte	20
Quealy dome	810
Rock River	1,300
South Casper	460
Poison Spider	290
Teapot	20
Wertz	160
Waugh dome	270
Total Wyoming	48,640
MONTANA	
Border	180
Cat Creek	650
Cut Bank	10,300
Dry Creek	30
Kevin Sunburst	5,000
Lake Basin	20
Pondera	1,050
Total Montana	17,230
COLORADO	
Florence	170
Fort Collins and Wellington	250
Iles dome	2,520
Moffat	390
Orchard	20
Rangely	80
Tow Creek	140
Price	750
Total Colorado	4,320
NEW MEXICO	
Cooper	6,650
Eaves	1,150
Eunice	31,900
Hardy	1,150
Hobbs	21,150
Jal	1,230
Langlie	1,650
Lynch	880
Lynn	270
Mattix	1,490
Monument	33,900
North Lynch	60
Penrose	2,430
Rhoades	60
Skelly	1,170
South Eunice	1,500
Vacuum	10
Artesia Maljamar	6,800
Getty	200
Hogback	200
Rattlesnake	800
Table Mesa	80
Total New Mexico	114,730
Total Rocky Mountain region	184,920



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Further information on Goulds Pumps and their application to the petroleum industry will be sent on request.

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Oklahoma Operations

By
DAL DALRYMPLE

WELLSTON TEST FINDS A BIG OIL ZONE IN WILCOX SAND

Extensions and indicated extensions of proven areas shared interest with several important wildcats in Oklahoma field news the past week. The North Wellston area of western Lincoln County claimed the spotlight when Sun Oil Co. No. 2 Aranwine, NW SW SE section 35-15-2e, was deepened to Wilcox sand at 5,072-85 feet and production increased to 145 bbls. of oil an hour. It was shut in for additional tankage. In the 24 hours before deepening it had produced 1,009 bbls. of oil from Simpson Dolomite. Dolomite was topped at 5,050 feet and first oil found at 5,065 feet. This strike proves a considerable area for development.

Two wells were checking high on the east side of the Moore field, Cleveland County, and may prove or disprove presence of a fault. They were Sinclair Prairie Oil Co. and others No. 4 Marvel, SE SW NE section 21-10-2w, which topped Viola lime at 6,909 feet, 25 feet higher than No. 1 Marvel, and was drilling ahead at 6,960 feet; same operators' No. 4 Franklin, NE NE SE section 21-10-2w, which had Sylvan shale at 6,759 feet, from 25 to 80 feet higher than neighboring wells, and was drilling below 6,790 feet.

Production was assured east of the fault in the Edmond field, Oklahoma County, at Ohio Oil Co. No. 3 Messer, SW NW SW section 32-14-3w. It flowed 739 bbls. of oil in 15 hours after a shot at 6,678-6,710 feet in Wilcox sand, total depth 6,725 feet. Operators expect it to produce around 150 bbls. of oil an hour when cleaned out. It is north of No. 2 Messer, also east of the fault, which made potential of 7,700 bbls. at 6,702 feet.

Sinclair Prairie Oil Co. No. 7 Stammer, SE SE NW section 30-11-2w, apparently was proving a new producing area on the southeast edge of the Oklahoma City field, Oklahoma County. It produced 15 bbls. of oil daily, with no water, while cleaning out at 4,084 feet, total depth.

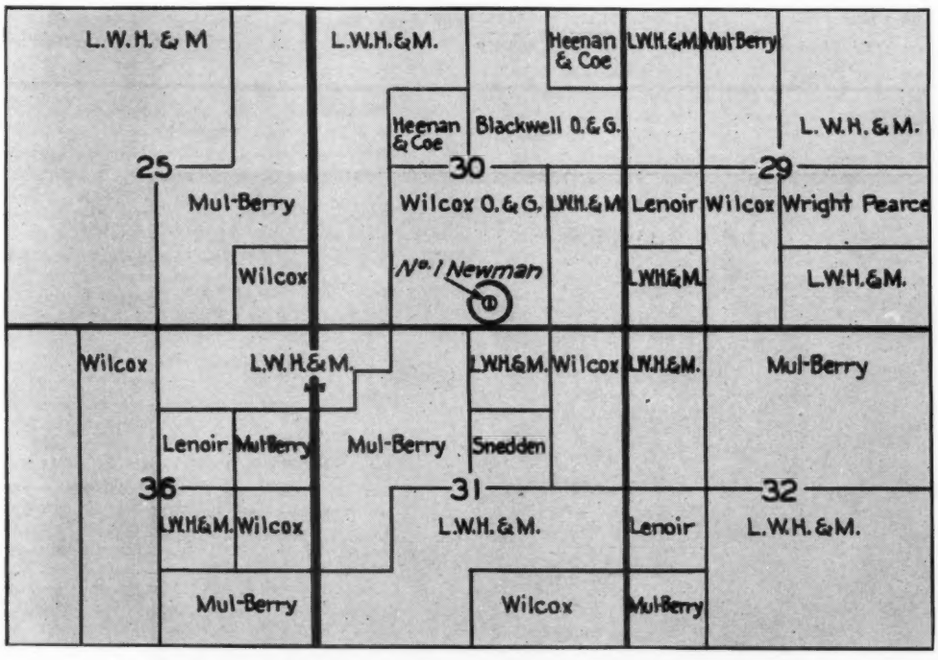
Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Billington, SW SE SW section 32-9-3e, wildcat southwest of Tecumseh, Pottawatomie County, was plugging back from 5,320 feet in the Wilcox sand to 5,230 feet and will test Simpson Dolomite. It swabbed 30 bbls. of oil an hour with some water before plugging back.

Carter Oil Co. and others No. 1 Harley, C NE NE section 24-2s-4w, wildcat in southeastern Stephens County, was drilling at 6,855 feet in shale and Dolomite. It was reported running higher than same operators' No. 1 Ruth Williams, deep pay discovery well in the Fox field, to the east in Carter County.

Work has started at a second deep test in the Fox field at Gulf Oil Corp. No. 1 Johnson, C SW NW section 27-2s-3w, east of the No. 1 Ruth Williams. It may be drilled to 9,000 feet unless oil is found at a shallower depth.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW section 21-6s-2w, Love County wildcat, was producing around 25 bbls. of oil daily at 6,927 feet, after plugging back from original depth of more than 8,000 feet and testing for several months. Operators planned to run tubing to 6,920 feet.

Down in McCurtain County, southeastern corner of the state, H. F. Wilcox Oil & Gas Co. No. 1 Newman, SW SW SE section 30-7s-23, was drilling below 1,008 feet. This rank wildcat found Caddo formation at 70 feet, Kiamichi clay 219 feet, Goodland lime 347 feet, Paluxy sand 475 feet and had a fresh water sand around 970 feet.



Wilcox Oil & Gas Co. No. 1 Newman, section 30-7s-23e, rank wildcat in McCurtain County, southeastern Oklahoma, was drilling below 1,000 feet

Pontotoc County

Only four new oil wells were completed in the Fitts field, Pontotoc County, a small number for that busy sector. Largest of the new producers was E. H. Moore No. 1 Akers, NW SW NE section 36-2n-6. After acid treatment it flowed 384 bbls. of oil in one and one-half hours, making potential of 3,428 bbls. Top of Hunton lime was 3,623 feet, Sylvan shale 3,890 feet, total depth 3,895 feet.

W. A. Delaney No. 4 Smith, SW cor. section 25-2-6, had Hunton lime at 3,481 feet, Sylvan shale 3,710 feet, total depth 3,712 feet. It was acidized and made potential of 2,353 bbls. of oil.

J. E. Crosbie No. 2-C Burris, SE SE NW section 27-2-7, was bottomed at 2,535 feet, and flowed 163 bbls. of oil in four hours from Cromwell sand topped at 2,396 feet.

Magnolia Petroleum Co. No. 21 Simpson, SW NE NE section 29-2-7, had Cromwell sand at 2,548 feet, total depth 2,640 feet, and flowed 298 bbls. of oil in 24 hours through tubing.

Four wells were completed elsewhere in Pontotoc County. Blackwell Oil & Gas Co. No. 1 Mount, SW SW NW section 13-4-6, was drilled to 3,470 feet. Sulfur water encroached and it was plugged back to 1,560 feet, shot and swabbed 20 bbls. of oil daily. Production was from Gilcrease sand at 1,515-60 feet.

Larson and others No. 3 Robinson, SW NW SW section 23-5-8, had Allen sand at 756 feet, total depth 764 feet, was shot and pumped 2 bbls. of oil daily.

Mary F. Oil Co. and others No. 2 Miller, NW NW SW section 15-5-8, was dry and abandoned at 1,080 feet.

Mid-Continent Petroleum Corp. No. 1 Schrupp, SW NW SW section 24-5-6, wildcat, topped Gilcrease sand at 1,892 feet, Pennsylvania Caney 1,970 feet, Mississippi Caney 2,250 feet, Mayes 2,340 feet, Woodford 2,605 feet, Hunton lime 2,848 feet, Sylvan shale 2,895 feet, Viola lime 3,085 feet, Dense 3,135 feet and was dry and abandoned at 3,185 feet, total depth.

New work in Pontotoc County: Burke-Greis Oil Co. No. 3 Colbert, NE SE NW section 36-2-6, rig; Magnolia Petroleum Co. No. 1 Young, SE NE NW section 22-2-7, an old well, plugged back from 3,910 feet to 3,865 feet, standardizing; Shell Petroleum Corp. No. 2 McKinley, SW NE NW section 23-2-7, cellar and pits; Magnolia Petroleum Co. No. 34 Metropolitan Life, SE NW NE section 27-2-7, cellar and pits; same company's No. 35 Metropolitan Life, SW NE NE section 27-2-7, cellar and pits; Amerada Petroleum Corp. No. 10 Smith, NW SE NW section 28-2-7, rigging up rotary; J. E. Crosbie, Inc. No. 1-C McCoy, SW NE NE section 28-2-7, location; Magnolia Petroleum Co. No. 6 Smith, NE SE NW section 28-2-7, location; same company's No. 7 Smith, SE SE NW section 28-2-7, location; same company's No. 11 Burris B, SE NE NE section 28-2-7, location; same company's No. 12 Burris B, NE SE NE section 28-2-7, location; same company's No. 24 Simpson, SE NE NE section 29-2-7, location; Raemor Drilling Co. No. 1 Balthrop, SE NE SE section 10-4-6, drilling at 70 feet; Mary F. Oil Co. No. 1 Patterson, NE NE NW section 29-5-8, old well to be deepened, rig.

Seminole County

Three oil wells were completed in the North Bethel pool, Seminole County. Amerada Petroleum Corp. and others No. 2 McLaren, NE NW NE section 36-10-7, found Cromwell sand at 3,615 feet, total depth 3,624½ feet and flowed 468 bbls. of oil in 24 hours. Same operators' No. 2 Noble, SW SW SE section 25-10-7, had Cromwell sand at 3,588 feet, was bottomed at 3,600 feet, flowed 197 bbls. of oil in 14 hours and made potential of 305 bbls. Sun Oil Co. No. 1 Tiger, NW NW SW section 36-10-7, flowed 180 bbls. of oil in 24 hours from Cromwell sand at 3,686 feet, total depth 3,695 feet.

Jack Lynch and others No. 1 Swan-Burton, NW NW NE section 24-5-5, topped Hunton lime at 2,335 feet, Sylvan shale 2,514 feet, Viola lime 2,647 feet and was bottomed at 2,663 feet. It was shot at 2,500-34 feet, acidized and flowed 133 bbls. of oil in 24 hours.

Paul Traugh No. 2 Williams, NW SE NE section

22-6-6, had sand at 2,337 feet, total depth 2,355 feet, was shot and swabbed and flowed 281 bbls. of oil in 24 hours. W. B. Pine No. 2 Williams, NE cor. section 22-6-6, found sand at 2,318 feet, total depth 2,339 feet, and swabbed and flowed 65 bbls. of oil in 24 hours. Same operator's No. 3 Williams, SW NE NE section 22-6-6, flowed and swabbed 100 bbls. of oil in 24 hours from sand at 2,330 feet, total depth 2,341 feet.

Paul Traugh No. 1 Dameron, NW NW SW section 23-6-6, was dry and abandoned at 2,382 feet, total depth. Same operator's No. 2 Anders, SW SW NW section 23-6-6, was an abandoned location.

R. W. Simpson and C. W. Roodhouse No. 1 Stewart, SW cor. section 14-6-6, topped sand at 2,315 feet, total depth 2,325 feet, was shot and swabbed 278 bbls. of oil in 24 hours.

Superior Oil Co. No. 1-A Ingram, SW NW NW section 1-9-5, Earlsboro area, had Wilcox sand at 4,274 feet, was bottomed at 4,280 feet, acidized and pumped 90 bbls. of oil in 24 hours.

Skelly Oil Co. No. 2 Varnam, NE NW NW section 5-9-6, an old well, was plugged back from 4,348 feet to 4,206 feet, shot and acidized and pumped 40 bbls. of oil net in 24 hours.

First reports of new activity in Seminole County: Curtis & Williams No. 1 Sasakwa, SE NE SE section 30-6-8, rigging up rotary; W. B. Pine No. 6 Williams, NE NW NE section 22-6-6, cellar and pits; Jack Lynch and others No. 1 Burton, NE NE NW section 24-5-5, cellar and pits; Wood Oil Co. No. 1 Harjo, SE SW NW section 12-5-7, an old well, cleaning out after plugging back and shooting at 4,288-98 feet.

Noble County

Phillips Petroleum Co. and Shell Petroleum Corp. No. 3 Hackett, NW SE SE section 21-23-2w, Billings pool, Noble County, topped Wilcox sand at 4,315 feet, total depth 4,356 feet, flowed 451 bbls. of oil in six hours and made potential of 1,838 bbls.

Helmerich & Payne No. 1-A Blubaugh, NW cor. section 1-24-1w, Tonkawa area, had Tonkawa sand at 2,557-71 feet, total depth, plugged back to 2,567 feet and pumped 2 bbls. of oil and 12 bbls. of water daily.

Shell Petroleum Corp. No. 1 Rupp A, SE SW SW section 30-21-2w, was a rig. Tide Water Oil Co. No. 6 Shaffer, SE SE SW section 21-23-2w, was building rig. Champlin Refining Co. No. 1 Gassoway, NE NE NW section 28-23-2w, was a location.

Estimated Daily Production

Estimated daily production of Oklahoma for the week ending July 3, and for the preceding week, was as follows:

	Barrels	
	July 3	June 26
Allen	5,475	5,050
Billings	7,875	7,700
Burbank	8,200	8,150
South Burbank	16,100	16,125
Balance Osage	21,800	21,900
Blackwell district	5,675	5,375
Bristow-Slick	7,800	7,800
Chandler	3,000	3,025
Crescent	8,000	9,850
Cromwell	3,350	3,400
Cushing-Shamrock	10,750	10,800
Duncan district	3,975	3,950
Edmond	19,250	20,500
Fish	6,375	6,325
Fitts	91,500	93,500
Jesse	2,250	3,250
Graham	4,525	4,500
Gray	1,175	1,225
Healdton	10,300	10,250
Hewitt	4,350	4,375
Holdenville	925	925
Keokuk	8,900	9,150
Konawa	1,650	1,625
Lucien	15,750	15,500
Moore	13,500	14,750
Oklahoma City	140,575	147,075
Olympic	13,475	11,150
Polo	1,100	1,275
Sasakwa and townsite	2,750	2,625
Sholem-Alechem	3,200	3,200
Seminole:		
Bowlegs	11,575	11,400
Carr City	5,625	5,750
Earlsboro	6,325	6,525
South Earlsboro	725	700
East Earlsboro	7,375	7,375
Little River	10,725	10,875
East Little River	1,075	1,125
Maud	750	775
Mission	2,150	2,150
Seminole	9,275	9,575
East Seminole	2,950	2,950
Searight	4,600	4,525
Total Seminole	63,150	63,725
St. Louis-Pearson	20,225	21,150
Tatums	5,750	5,650
Tonkawa-Garber-Thomas	4,975	4,850
Wewoka	3,325	3,350
Yale-Jennings	4,225	4,275
Other pools	74,400	74,750
Total Oklahoma	619,600	632,075

Lincoln County

Mid-Continent Petroleum Corp. No. 1 Wagner, C W half E half NW section 10-13-6e, Laffoon area, Lincoln County, topped Hunton lime at 4,102 feet, total depth 4,140 feet, and was completed as a 7,000,000-foot gas well.

Coline Oil Co. No. 1 Davenport, SE SW NW section 1-14-3e, Chandler district, found Skinner sand at 4,262 feet, total depth 4,300 feet, and flowed 142 bbls. of oil in 24 hours through tubing.

Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Transwestern Oil Co. No. 1 Cleveland, SE SE NW section 35-15-2e, North Wellston sector, topped Wilcox sand at 5,156-60 feet, total depth, and swabbed 148 bbls. of oil and 42 bbls. of water in 24 hours.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Fox, SW SE NW section 21-17-3e, Sporn pool, topped first Wilcox sand at 4,575 feet, had second sand at 4,636-47 feet, total depth, plugged back to 4,613 feet, was shot and acidized, swabbed 159 bbls. of oil in 8 hours and 15 minutes, later flowed 52 bbls. of oil through tubing in 24 hours and was completed.

Mullendore No. 1 Keller, NW NE NW section 28-17-3e, was dry and abandoned when drill stem test indicated water at 4,669 feet, total depth.

Two new operations in Lincoln County were reported. Summit Drilling Co. No. 1 Clark, SE SW NE section 35-15-2e, was rigging up rotary. Skelly Oil Co. No. 3 West Sporn, NW NW SW section 21-17-3e, was rigging up rotary.

Oklahoma County

Phillips Petroleum Co. No. 6 Traders, NE SW SW section 36-12-3w, Oklahoma City field, Oklahoma County, had sand at 6,120 feet, Johnson big lime 6,279 feet, total depth 6,302 feet, and produced 163 bbls. of oil and 317 bbls. of water on Reda pump.

Ohio Oil Co. No. 4 Hathaway, NW cor. section 6-13-3w, Edmond field, had Dolomite at 6,529-6,600 feet, total depth, was acidized, flowed 196 bbls. of oil in four hours and made potential of 1,177 bbls.

Texas Co. No. 3 School Land, NE SE NE section 36-14-4w, was treated with 10,000 gallons of acid, flowed 298 bbls. of oil in four hours, made potential of

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1,790 bbls. and was completed at 6,571 feet, total depth. It cut 3 per cent water.

Sunray Oil Co. No. 1 Dickson, NW cor. section 17-11-1e, wildcat, was dry and abandoned when water was indicated on Schlumberger test at 6,524 feet, total depth. Tops follow: Pawhuska 2,600 feet; Oread 3,520 feet, Layton 4,140 feet, Oswego 5,560 feet, Hunton lime 5,915 feet, Sylvan shale 6,100 feet, Viola lime 6,190 feet, Dense 6,250 feet, Dolomite 6,275 feet, first Wilcox sand 6,339 feet, second Wilcox sand 6,461 feet.

Frank Buttram and associates No. 1 W. A. Cole, NW cor. section 16-14-1e, was digging cellar. It is a wildcat near Luther in northeastern Oklahoma County. Transwestern Oil Co. No. 1 Our Ladies Church, NW SE NE section 30-13-3w, was digging cellar.

Pottawatomie County

Mid-Continent Petroleum Co. No. 1 Bettis, NW SW SE section 17-7-4, an old well originally abandoned at 4,252 feet, total depth, was reported abandoned again after cleaning out to 850 feet.

New work in Pottawatomie County: C. H. Yoakum No. 1 well, SE SE NE section 27-6-4, wildcat, cellar and pits; Denver Producing & Refining Co. No. 2 Risenhoover, SE NE NE section 14-7-4, rig on ground; Phillips Petroleum Co. No. 1 James, NW SE SW section 17-7-4, an old well, plugged back from 4,142 feet to 4,102 feet, pumped 6 bbls. of oil and 21 bbls. of water in 24 hours from Viola lime topped at 4,016 feet; Magnolia Petroleum Co. No. 1-C Jones, NE SW NE section 18-7-4, location; Shell Petroleum Corp. No. 1 Hines, NE SW NW section 22-7-4, pumped 7 bbls. of oil in 24 hours after plugging back from 4,187 feet to 4,055 feet; Indian States Oil Co. No. 1 Goodman, NE NW NE section 5-10-4, cellar and pits; Atlantic Refining Co. and Mid-Continent Petroleum Corp. No. 1 Hanaker, NW NE NE section 6-10-5, location; R. Olson No. 3 Junk, SW NE SE section 32-11-4, rig.

Okfuskee County

Sinclair Prairie Oil Co. No. 6 Palmer, NE NE NW section 19-10-9, Olympic area, Okfuskee County, topped Senora sand at 1,815 feet, total depth 1,816 feet, and swabbed 300 bbls. of oil and 240 bbls. of water initially in 24 hours. Same company's No. 3 Cohee, SE SW NW section 19-10-9, had sand at 1,854-89 feet, total depth, was shot, flowed 80 bbls. of oil in 24 hours and swabbed 100 bbls. in 24 hours.

Champlin Refining Co. No. 3 Maudie, SE SW SW section 7-10-9, found Senora sand at 1,910 feet, and was dry and abandoned at 1,932 feet, total depth.

Snyder & Swan No. 10 Wind, CSL SW NE section 35-11-9, pumped 8 bbls. of oil daily after a shot at 1,415-92 feet, total depth.

J. J. Rebold No. 1-A Hope, C SW NW section 11-11-13, found Booch sand at 1,321-44 feet, total depth, had a fishing job and was dry and abandoned.

Sinclair Prairie Oil Co. No. 7 Palmer, SW SE NW section 19-10-9, had dug cellar and pits.

Hughes County

Sinclair Prairie Oil Co. No. 2 Harjo, NE SW SE section 11-7-8, Hughes County, was dry and abandoned at 1,860 feet, total depth.

Midwest Production Co. No. 1 Hill, C SE NW section 13-9-9, an old well, was deepened from 2,942 feet, had a hole full of water at 3,387-89 feet, total depth, and was dry and abandoned.

Two new operations were reported in Hughes County. Pittsburgh Pipe & Supply Co. No. 1 Jonah, SE SW NW section 20-7-8, had dug cellar and pits. Same company's No. 4 Fish, SE NW NW section 20-7-8, had spudded.

Osage County

Lewis Production Co. No. 5 Smith B, NE NW NE section 33-24-7, Naval Reserve area, Osage County, had Bartlesville sand at 2,550 feet, total depth 2,635 feet, was shot and flowed 162 bbls. of oil in 20 hours.

Sinclair Prairie Oil Co. No. 7 Osage, NW SE NE section 16-25-6, South Burbank field, had Bartlesville sand at 2,837-52 feet, total depth, was shot and flowed 115 bbls. of oil daily.

Magnolia Petroleum Co. No. 9 DeNoya, NW SW NW section 11-26-6, topped Bartlesville sand at 2,796 feet, was bottomed at 2,865 feet, shot and pumped 26 bbls. of oil in 12 hours.

Phillips Petroleum Co. No. 61 Osage, SE SE NE section 21-25-12, was completed as an input well at 1,525 feet, total depth.

J. H. Alexander and others No. 2 Osage, NW NW SW section 30-25-12, had a hole full of water in Bartlesville sand at 1,530-1,633 feet, total depth, and was dry and abandoned.

Input wells were completed at Wolverine Oil Co. and others No. 20 North Avant Unit, NE NW SE section 31-24-12, total depth 1,779 feet; and Philteh No. 19-B Osage, NE SW SE section 21-25-12, total depth 1,709 feet.

New activity in Osage County: Moore and others No. 3-A Osage, SE NE NE section 2-21-8, location; L. E. Mertz No. 8-A Osage, SE cor. section 8-21-9, location; Ohio Oil Co. No. 9 Osage, NW SE SE SW section 36-22-8, location; O. H. Pettigrew No. 8 Osage, NW SW SE section 11-23-11, location; Lewis Production Co. and Texas Co. No. 1 St. John, SE NE SW section 17-24-7, location; Indian Territory Illuminating Oil Co. No. 447 Osage, SE NE NE section 16-26-12, location.

Kay County

Prunty Production Co. No. 1-A Westgate, SE NW SE section 12-26-2w, Hubbard area, Kay County, was dry and abandoned at 3,775 feet, total depth. Wilcox sand was topped at 3,760 feet. It swabbed as high as 150 bbls. of oil and 150 bbls. of water in six hours after plugging back to 3,650 feet, perforating casing and acidizing, but after another acid treatment water prevailed.

Black Gold Petroleum Co. No. 2 Cooley, SW cor. section 25-28-4, wildcat, was drilling at 370 feet.

Creek County

Sinclair Prairie Oil Co. No. 11 Jones, SE NE SW NW section 4-17-7, Cushing field, Creek County, topped Bartlesville sand at 2,580 feet, total depth 2,691 feet, plugged back to 2,686 feet and pumped 277 bbls. of oil in 24 hours. Same company's No. 2 Hope B, NW SW SW section 3-17-9, had Prue sand at 2,071 feet, was bottomed at 2,091 feet and pumped 4½ bbls. of oil daily.

Meissner & Coffey No. 1-A Mayfield, C SE SW section 15-17-11, South Sapulpa area, was dry and abandoned at 2,250 feet, total depth.

D. W. Franchot and others No. 1 Franklin, SE NW SE section 20-18-9, had Mississippi lime at 2,974-3,234 feet, Wilcox sand 3,264 feet, total depth 3,301 feet, plugged back to 3,015 feet, and flowed 60 bbls. of oil daily.

Bryan Petroleum Co. No. 3 McClain, SE NE NW section 22-19-9, pumped 12½ bbls. of oil and 12½ bbls. of water in 24 hours and was completed in Bartlesville sand at 2,210-85 feet, total depth.

Sinclair Prairie Oil Co. No. 8 Tucker, SW SW SE section 3-17-7, an old well, was deepened from 2,635 feet to sand at 2,638-68 feet, total depth, pumped 17½ bbls. of oil and 5 bbls. of water in 24 hours and was recompleted. Same company's No. 8 Jones, NW SE NW section 4-17-7, an old well, was deepened from 2,615 feet to 2,633 feet and pumped 12 bbls. of oil in 24 hours. Same company's No. 11 Jones, NW NE NW section 4-17-7, an old well, was deepened from 2,516 feet to 2,540 feet, plugged back to 2,535 feet, and pumped 3 bbls. of oil daily, recompleted.

New work in Creek County: Tide Water Oil Co. No. 5 Brown, NE NW NE section 9-17-7, an old well, deepened from 2,678 feet to 2,704 feet, cleaning out; Sinclair Prairie Oil Co. No. 9 Litchfield, NE NW NW section 22-17-7, an old well, cleaning out after deepening from 2,856 feet to 2,888 feet and shooting; L. B. Jackson No. 6 Wills, SE SW SW NW section 26-18-8, an old well to be deepened, machine; same operator's No. 1 Albert, NE NE NW section 25-18-9, wildcat, rig; Galena Oil Co. No. 1 Anthis, NE cor. section 36-18-10, running 8-inch casing at 850 feet, total depth; G. D. Taylor No. 1 Veasley, NE NE NW section 36-18-10, straightening hole at 475 feet, total depth; Carpenter & Hauser No. 2 well, SW NW SW section 25-18-11, drilling at 300 feet; Commercial Drilling Co. No. 1-A Cordell, NW SE SW section 17-19-9, running 8-inch casing at 965 feet, total depth.

Okmulgee County

Three new producers were completed in Okmulgee County. Klingensmith No. 17 Grayson, SE NW NE NW section 35-16-11, was shot and pumped 60 bbls. of oil daily from pay at 2,265-2,310 feet, total depth 2,365 feet.

R. E. Downing No. 11-A Colbert, C SW NW section 1-15-14, had sand at 1,305 feet, total depth 1,376 feet, was shot and completed as a 10-bbl. well.

Steckoll and others No. 1-A Davis, C E half NE NW section 17-14-13, pumped 10 bbls. of oil daily from sand at 1,850-69 feet, after a shot.

Downing & Potter No. 1-A Morton, CSL NW NW section 21-14-12, had spudded. Iverson Tool Co. No. 1-B Stephens, SE NE SW section 8-14-13, had spudded. J. E. Dow No. 1-A Stephens, CSL NE NE section 9-14-14, drilling at 786 feet.

Tulsa County

W. T. Etting No. 1-A Baker, SE NW NW section 10-18-12, Glenn pool, Tulsa County, was dry and abandoned at 1,723 feet, total depth.

Two new operations in Tulsa County were reported. Cummings Brothers No. 3 Rider, CEL NE NW section 27-17-13, was rigging up. Johnson Oil Refining Co. No. 4 Holmes & Bailey, SW SW NE section 31-19-10, was drilling at 994 feet.

Pawnee County

J. B. Shelps No. 6 Dunn, NW NE SE section 10-20-8, had Cleveland sand at 1,608-68 feet, total depth 2,459 feet, plugged back to base of sand, perforated liner and produced 1,000,000 feet of gas. It is in the Lauderdale area, Pawnee County.

Ray Spears and others No. 2-A Smeltser, NW NE NW section 35-20-9, was completed as a 4-bbl. pumper at 2,049 feet, total depth. Top of Red Fork sand was 2,012 feet.

Garvin County

A trio of wells were completed in the Tussy area, Garvin County. Wrightsmith No. 2 Yates, SE NW SW section 33-1n-3w, had gas sand at 1,720-38 feet, total depth, and produced 2,000,000 feet of gas. Same operator's No. 4 Yates, SE NW SW section 33-1n-3w, was completed as a 3- to 5-bbl. pumper at 2,469 feet, total depth; top of oil sand was 2,150 feet.

Cox & Hamon No. 3 Norton, SW NW NE section 32-1n-3w, was bottomed at 2,891 feet, plugged back to 2,680 feet, tested water and was abandoned.

Texas Co. No. 15 Derdyne, SW SW NE section 17-1n-3w, was a location.

Jefferson County

Farlyn Oil Co. No. 45 Seay, NW SW SE section 3-7s-5w, Oscar-Seay area, Jefferson County, pumped 150 bbls. of oil in 24 hours and was completed at 1,275 feet, total depth.

Bridwell Oil Co. No. 14 Wahlgemuth, SW NE NW section 30-6s-5w, pumped 40 bbls. of oil and 4 bbls. of water daily and was completed at 1,520 feet, total depth.

Farlyn Oil Co. No. 46 Seay, SE NE SW section 3-7s-5w, was drilling at 650 feet.

Stephens County

Texas Co. No. 4 Tomlin, SW NE NW section 15-3s-5w, an old Stephens County well, was deepened from 1,484 feet to 1,818 feet, and was dry and abandoned.

Skelly Oil Co. No. 30 Selby, NW NW SW section 26-1s-5w, was a machine.

Kiowa County

McWherter & Francis No. 1 Padgett, NE NW SE section 3-5-17w, Kiowa County wildcat, was dry and abandoned at 511 feet, total depth.

Comanche County

Edwards & Kadane No. 3 Culberson, NE cor. section 32-2n-10w, Lawton area, Comanche County, had gas pay at 438-58 feet, total depth 540 feet, produced 1,500,000 feet of gas and was completed.

Guy Anderson No. 3 Price, SW NE NE section 30-2n-9w, an old well, was deepened from 1,667 feet to Granite Wash at 2,023-33 feet, total depth, flowed 25 bbls. of oil daily and was recompleted.

Various First Reports

Sinclair Prairie Oil Co. No. 1 Ford, SW NW SE section 12-17-1w, Logan County, was building rig. Sunray Oil Co. and Olson Drilling Co. No. 1 well, SW SW NE section 31-17-1w, wildcat southwest of Langston, was digging cellar.

In Cleveland County, Sinclair Prairie Oil Co. and others No. 1 Peaches, NE SE NW section 21-10-2w, Moore field, was testing cement after plugging back from 7,309 feet to 7,208 feet. Hollenback and others No. 1 Ward, SW SE NE section 30-7-1e, wildcat, was digging cellar and pits.

In Muskogee County, W. B. Pine No. 1-B Mathews, CWL NE section 19-15-15, had Wilcox sand at 1,868-1,914 feet, and was plugging back.

In Carter County, W. G. Barnett Oil Co. No. 1 Lucas, SW SE NW section 14-1s-3w, had dug cellar

and pits. Snowden & McSweeney No. 29 Apple & Franklin, NW SE NW NE section 9-4s-3w, was a location.

In Grady County, Texas Co. No. 1 Harton, NW SW NW section 8-3n-5w, was a location. John S. Graham No. 1 Thomas, NW NE NE section 19-5-7, was rigging up rotary.

In Cotton County, Shasta Oil Co. No. 1 Powell, NW SE NE NE section 35-1s-10w, was drilling at 300 feet.

Southwest Texas Fields

(Continued from Page 76)

throughout Southwest Texas. In Bee and Goliad counties, the Plummer and Hords Creek fields are possibly to be extended, as is the Slick field of the latter county.

Jim Wells County's most interesting wildcat is currently Magnolia Petroleum Co. No. 7 Seeligson, which is drilling below 5,810 feet after testing oily mud and distillate at 5,614-24 feet. In the same county, the Wellington Oil Co. failed to find shows of production in the No. 1 Sevier wildcat and abandoned it at 6,509 feet.

The Kingsville area of Kleberg County is reviving, with new tests starting and projected. To the south in Hidalgo County, two tests are drilling in the deep La Blanca field, and others are shortly to get under way. Starr County's deep test, Merren's No. 1-A Starr County Cattle Co. is dead at 5,477½ feet. The deep Barbacoas test flowed distillate and gas at 1,200 pounds tubing pressure for several days before sanding up. Operators will rework for completion.

Eastern Fields

(Continued from Page 72)

feet. Gantz sand was topped at 2,387 feet and there was a 300,000-foot gas production at 2,415-17 feet.

In Peters Township, Washington County, the test of Phillips & Smith on the W. Donaldson farm drilled through the Fifth sand and it was dry and plugged.

In Center Township, Greene County, J. B. Orndoff is drilling at 520 feet in No. 2 Mattie I. Scott. South Penn Oil Co. is down 1,405 feet in No. 11 Samuel Harvey. The Carnegie Natural Gas Co. has made a location for No. 3 J. W. Milliken and is building a rig on the J. H. Orndoff farm. Manufacturers Light & Heat Co. is drilling at 450 feet in No. 2 W. L. Fordyce and Union Gasoline & Oil Corp. 350 feet on the Mabel Bodley farm.

Deep Tests

In Fairfield Township, Westmoreland County, on the Laurel Ridge dome, the Potter Development Co., William Snee and others have ordered a new steel rig for the deep test on the Indiana Savings & Trust Co. lease and will run casing to bottom or 7,594 feet. It is still making gas from the Onondaga.

In Washington County, the test of Norwood Johnston and others on the James McBurney farm in Mount Pleasant Township is being re-rigged to run casing. The heavy load of about 6,200 feet of 8⅝-inch O.D. 38 and 36-pound extreme-line casing necessitated changes and bracing. The rig was skidded 15 inches and set on new concrete pillars. There is still considerable work to do before the casing will be run.

In Beaver County, the test of John T. Galey and others on the Minnie Weigle heirs (Duff) farm in South Beaver Township did not recover the tools lost 172 feet in the Onondaga. A 6⅝-inch hole has been drilled alongside the old tools and is now 22 feet below the top of the lost tools, which may be recovered.

In Allegheny County, the South Penn Oil Co. and others ran 10-inch casing in the test on the Christian Z. Schove farm, Hampton Township, to a depth of 721 feet, the Sixty-foot sand, and have continued down with a 10-inch hole.

In Lawrence County, the Carnegie Natural Gas Co. is still trying to get started in the deep test on the W. A. Currie farm in Shenango Township. After skidding twice due to glacial boulders it is now cementing at 95 feet, due to mud and water.

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Houston, Texas.

California Fields

(Continued from Page 80)

successful completion on this property, which was leased from the California Institute of Technology and present plans call for additional drilling on both the Cal Tech lease and the Strassburger property.

Coastal Area

In the Ventura Avenue field Tide Water Associated Oil Co. completed No. 81 Lloyd flowing 311 bbls. of 29.1-gravity oil and 184,000 feet of gas daily from 7,600 feet, after the hole had been finished with 369 feet of 5-inch liner including 274 feet of perforated pipe at 7,595 feet. In the Capitan field of Santa Barbara County Shell Oil Co. completed No. 1-22 Covarrubias doing 202 bbls. of 40.9-gravity oil on gas-lift from 2,836 feet after the hole had been plugged back from 2,880 feet due to a gray sand found in the bottom of the hole at the latter depth. In the Santa Maria Valley field Hancock-Bush interests have bottomed No. 2 Brown in the basement, Franciscan, at 3,824 feet and should be ready for a production test within the next week. Pacific Western Oil Co. has bottomed No. 1 Hobbs in the basement at 4,227 feet and is making preparations for a production test. Top of the Franciscan was encountered at 4,200 feet and the well has approximately 400 feet of Monterey from which to produce.

Louisiana to Codify Oil Laws

SHREVEPORT, La. — Acting under authority granted during the session of the Louisiana legislature, Governor Richard W. Leche has appointed a commission to codify all oil, gas and mineral laws, and laws relative to the leasing of state lands. The code is to be submitted to the governor by January 1, 1938, and he will submit it to the next regular session of the legislature. It is proposed the code will be to oil and gas what the criminal code is to law—a condensation of existing statutes.

Members of the new codifying commission, named by the governor, are: Sidney L. Herold, Shreveport attorney, chairman; Leander H. Perez, Dalcour, La.; C. Arthur Provost, New Iberia; William C. Feazel, Monroe; and William G. Rankin, Louisiana Commissioner of Conservation, New Orleans.

Central West

By STAFF CORRESPONDENT

MUCH NEW WORK STARTED IN BASIN FIELDS OF ILLINOIS

MATTOON, Ill., July 5.—While the Pure Oil Co. has not yet officially completed its second big well in the Clay County field, it is showing as a very consistent producer. In eight days the well produced 10,159 bbls. or an average of 1,270 bbls. per day and was still going strong at the close of the period The casing pressure was 400 pounds and tubing pressure 47 pounds. It is producing from McCloskey sand at 2,940-67 feet and flows naturally.

In Marion County Adams Oil & Gas Co. and Felmont Corp. No. 5 Merryman, 630 feet from south and 1,100 feet from west lines of SW quarter section 21-4n-1e, was shot with 10 quarts in Benoist sand at 1,409-13 feet, and pumped 50 bbls. in 24 hours. It was not completed, and was being drilled deeper, last reported depth 1,421 feet. Cypress Oil & Gas Co. No. 1 Adams, C N half SW section 28-4n-1e, had Benoist sand at 1,446-52 feet, and in an 11-hour pumping test produced 100 bbls. of oil. Adams Oil & Gas Co. and Felmont Corp. No. 7 Merryman, CNL NW NW section 28-4n-1e, set 5½-inch casing at 1,394 feet. Top of the Benoist sand was at 1,397 feet, total depth 1,420 feet. It was flowing while the plug was being drilled out, but no gauge was taken.

Hempen & Burgess completed No. 1 Jeff Smith, NW NW SE section 28-4n-1e, Marion County. It was shot with 10 quarts in Benoist sand at 1,442-47 feet and pumped 200 bbls. of oil the first 24 hours.

Adams Oil & Gas Co. and Felmont Corp. No. 6 Merryman, CWL SE SW section 21-4n-1e, was shot with 10 quarts at 1,412-28 feet, and pumped 113 bbls. in 24 hours and was completed.

In Lawrence County Warren Hastings completed No. 1 Christiana, SW SE SW section 11-3n-12w, in McCloskey sand topped at 1,753 feet, total depth 1,884 feet. It pumped 40 bbls. in 24 hours. It had not been shot.

Illinois National Oil Co. No. 1 City of Patoka, NW NE SW section 28-4n-1e, Marion County, was completed in Benoist sand and pumped 280 bbls. of oil in 24 hours after a 10-quart shot at 1,417-25 feet.

Frank A. Frederick No. 1 Altom, C N half section 28-4n-1e, Marion County, was a hole full of oil from Benoist sand at 1,426-41 feet and was shut down for orders.

In Clinton County, Patoka Petroleum Co. completed a failure in No. 1 Ducomb, C SE SE NW section 13-3n-1w. It had sand at 1,482-1,504 feet but the hole filled with salt water. It was abandoned.

In Wayne County Pure Oil Co. continued its efforts to make a producing well out of No. 1 Stella Billington. It was three times acidized with 300 gallons, 600 gallons and 1,100 gallons respectively but it failed to bring up much more than the oil load. It was then shot with 10 quarts of nitroglycerin at 3,082-86 feet and with 20 quarts at 3,110-22 feet, and later the hole filled 3,085 feet with fluid. Its total depth is 3,212 feet.

More new work was started in the basin last week than in any previous seven days. It was scattered through Marion, Fayette, Wayne, Clay, Clinton, Washington and Edwards counties. New names are seen among the operators making locations or starting tests in this latest batch of "first reports" of operations.

Marion County

In Marion County Adams Oil & Gas Co. made locations for No. 1 Howell, NE cor. NW section 28-4n-1e; No. 1 Nattier, NW cor. NE NE SW section 28-4n-1e, and No. 1 Gus Wassem, CSL SE NW section 28-4n-1e, which is spudding. Hampen & Burgess are drilling in sand at 750 feet in No. 1 Prince, SW cor. SE NE SE section 28-4n-1e. Brown and others No. 1 Bachman, NW NW SE section 22-4n-1e, was drilling at 1,224 feet. Adams Oil & Gas Co. No. 1 Ainscough, NW cor. NE section 28-4n-1e, had top of Stein sand at 1,305-36 feet and was drilling at 1,432 feet. Eddington, Baldwin & Parker No. 1 Nichols, SE quarter section 12-4n-4e, set 6-inch casing at 2,138 feet and was drilling sandy lime at 2,157 feet. Hempen & Burgess No. 1 Joliff, NE NW SE section 28-4n-1e, set 6⅝-inch casing at 1,217 feet and was shut down at 1,417 feet but will deepen. C. G. Evans No. 1 Allison, CNL NW SW section 33-4n-1e, was waiting for a cable at total depth of 1,432 feet. Adams Oil & Gas Co. and Felmont Corp. No. 1 Davidson, CNL SW SW section 21-4n-1e, cored sand at 1,602½-07½ feet and got saturation. The operation stood waiting for cement to set after a squeeze job. No. 2 Davidson, SW cor. SW SW SE section 21-4n-1e, was shut down at 1,601 feet awaiting the result of the test to be given No. 1.

Fayette County

Schroeder and others set 16-inch pipe at 75 feet in their No. 1 Lilly, SE cor. SW SE section 16-8n-3e, Fayette County. Milliken & Rush set 10-inch pipe at 52 feet and were drilling at 515 feet in No. 1 Bahde, NW NW SW section 16-5n-3e. Beaton & Ryer were drilling at 960 feet in No. 1 Thompson, NW NW NE section 20-4n-1w.

Wayne County

Benedum & Trees have started a test in Wayne County, No. 1 Nugent & Rose, SE cor. NE SE SW section 21-2n-5e. It was spudded and shut down. Pure Oil Co. No. 1 E. C. Brach, NW NW SW section 26-1n-7e, total depth 3,119 feet, was acidized with 42 gallons and a 108-bbl. oil load and later swabbed about 68 bbls. of oil. It was then acidized with 250 gallons and a 40-bbl. oil load and swabbed 36 bbls. in eight hours. The crew was testing. Washburn Petroleum Co. has started a test, No. 1 Acola, NW NE NW section 31-2s-6e, and was drilling at 60 feet.

Clay County

Pure Oil Co. No. 1 B. W. Moseley, NE NW NE section 4-2n-8e, Clay County, was drilling at 2,010 feet. Wiser Oil Co. spudded No. 1 D. Smith, SW SE NE section 28-3n-8e. Pure Oil Co. made five locations in the county: No. 2 B. Travis, C NE SW NE section 33-3n-8e; No. 3 B. Travis, C SW NW NE section 33-3n-8e; No. 2 E. Weiler, C SW SE SE section 33-3n-8e; No. 3 E. Weiler, C NW NW SE section 33-3n-8e, and No. 4 E. Weiler, C NE NW SE. Derrick is being built on the last named location. Pure Oil Co. spudded No. 1 Nicholas Moseley, C SE SW NE section 33-3n-8e, and had set 10¾-inch casing at 318 feet and was drilling at 325 feet in No. 2 Sarah Bechtel, C SW SW NE section 33, and drilling at 275 feet in No. 1 Albert Travis, SE NE NW section 33.

Randolph County

John E. Mabee and others No. 1 Wilson, 330 feet from east and 675 feet from south lines of NE quarter section 3-4s-4w, was drilling at 1,050 feet.

Washington County

E. J. Lambert and George Giffert have started a test in NW cor. section 36-1n-2w, Washington County, and were drilling below 125 feet. Vickers and others No. 1 Morgan, SW SE NW section 22-1s-4w, set 6-inch casing to shut off water at 935 feet.

Edwards County

Leach Brothers spudded and shut down No. 1 A. D. Lee, C NW NE SE section 11-1s-10e, Edwards County.

Clinton County

Adams Oil & Gas Co. made a location for No. 1 Brammeier, 1,540 feet from south and 1,760 feet from west lines of SW quarter section 2-1n-2w, Clinton County. Gross, Erling & Murphy were drilling at 762 feet in No. 1 Eversgerd, SW NW SW section 22-1n-4w.

St. Clair County

A. J. Colgan was making repairs on No. 1 Reichert, NW SW SW section 18-1s-7w, St. Clair County, with the hole at a total depth of 1,775 feet.

Perry County

H. H. Forrester No. 1 fee, C W half SW NW section 11-3n-12w, Perry County, was drilling at 5,006 feet in lime.

Clark County

National Consumers Oil Co. No. 1, NW NE NW section 21-11n-12w, Clark County, was drilling below 1,935 feet.

OHIO DEVELOPMENT

FINDLAY, Ohio, July 5.—The receding flood waters of many Ohio streams have permitted the resumption of drilling activities in Ohio. This week the number of completions seems small but the general activity throughout the state is practically back to normal. No very outstanding completions can be reported. but several wells should be of definite interest to many.

In northern Ohio fields the Ohio Fuel Gas Co. No. 1 Alice Fashbaugh, section 8, Jackson Township, Stark County, was completed as a commercial gas well at 4,166-97 feet in Clinton sand, total depth 4,250 feet. The well was shut in at 414,000 feet after it was shot. In section 3 of the same township, the East Ohio Gas Co. completed No. 1 Arthur Daily in Clinton at 4,283-4,310 feet. The well was shot and shut in at 1,700,000 feet, with a rock pressure of 1,145 pounds. The same company completed No. 1 Mary Killinger in section 18 of the same township, with production from the Clinton sand at 4,156-72 feet. The well was shot and shut in at 381,000 feet.

In Goshen Township, Tuscarawas County, James Upham abandoned a dry hole through Clinton sand on the Charles G. Leggett farm. Red sand was encountered at 4,813-54 feet, with the White Clinton at 4,861-95 feet, total depth 5,077 feet. A new location was made in the Third quarter in Sandy Township by the East Ohio Gas Co. It is the No. 2 Charles E. Lebold.

Several locations were made as the result of the recent East Ohio Gas Co.'s discovery in Franklin Township on the Fernsell farm, and some drilling should be done in that area. The acreage is held mainly by the East Ohio Gas Co. and the Ohio Fuel Gas Co.

In section 12, Carlisle Township, Lorain County, William Dempsey No. 3 Julia Clark was a commercial gas well, making 592,000 feet in the Clinton sand at 2,268-75 feet.

The Ohio Fuel Gas Co. No. 1 Walter Strang, section 13, Hanover Township, Ashland County, was a commercial well in the Clinton sand at from 2,847-59 feet. The total depth of the hole was 2,863 feet. The well made 1,870,000 feet of gas naturally.

In section 33, Medina Township, Medina County, Harry Latshaw No. 3 Arthur Aylard made 2 bbls. of oil in the Berea during the first 24 hours after shot. The Berea sand was found at 407-512 feet, total depth 517 feet.

In Vinton County, Kelch Brothers completed a small commercial well on the E. O. Hutt farm in section 1, Richland Township, in Hamden sand at 700-24 feet. The well had an open flow of 40,000 feet, with a rock pressure of 76 pounds.

In Washington County, H. H. Uhl and others No. 1

(Continued on Page 102)

West and North Texas

By L. E. BREDBERG

JONES COUNTY DISCOVERY IS RATED AS MOST IMPORTANT

FORT WORTH, Tex., July 5.—Whether or not the new oil pay in the discovery well in northeastern Jones County is in the Palo Pinto lime, basal member of the Canyon series, or is higher up in the Canyon, is not of material difference to the discoverers, for as the well now stands, bottomed at 3,244 feet, it appears good for from 400 to 500 bbls. per day, and will probably be drilled deeper into the lime, picking up more saturation to increase its potential. Then, too, the lime will no doubt take acid successfully, which would raise its potential still higher.

The Iron Mountain Oil Co. has opened not only a new pool, but has picked up a deeper pay horizon for Jones County, in its No. 1 C. A. Olander, in section 196, B.B.B.&C. Survey, 3 miles east of Avoca and about 3½ miles north of the shallower Lueders field. Another pool for Jones County would not be considered so consequential if it were not for the fact that this pay is new in that county, which gives all the other producing areas another pay to "shoot" for in deepening wells when they are depleted, and another pay horizon to drill for by the wildcatters. Even old tests may be gone back into and drilled deeper, and Shackelford County, just east of Jones County, will be affected. Haskell County, to the north, may benefit by the new strike.

It is one of the most important discoveries in the West Texas or Central Texas district this year. It will be given an immediate outlet as the Humble Oil & Refining Co. recently purchased a half interest in the 1,220-acre block of the Iron Mountain Oil Co., A. V. Jones and H. R. Stasney, consulting geologists of Albany, who worked the geology and assembled the block.

The Maracaibo Oil Exploration Co. of Dallas and W. L. Pickens own jointly the N half of the SE quarter of section 196, which will force them to drill an offset well. Jones and Stasney own the S half of the SE quarter of the section, which will obligate them to drill an offset. Other independents hold nearby acreage; consequently a rapid development of the new pool is expected.

The pay in the well was topped at 3,242 feet. The well was shut down at 3,244 feet to run casing and cement at 3,239 feet. Lime was topped at 3,238 feet and the first gas struck at 3,240 feet. Gravity of the oil is 42 degrees according to some, and 44 degrees according to other reports, indicating the highest gravity oil yet produced in Jones County.

New Gaines County Pool

The recent discovery well of Amon G. Carter and Continental Oil Co. in northwestern Gaines County, in section 48, Block AX, P.S.L. Survey, made 333 bbls. of oil with 6,650,000 feet of gas on a 24-hour potential test, flowing through open 2½-inch tubing on three-quarters inch choke with a 3-inch flow line. This new strike opens a field near the Yoakum County line, and in an area in which four tests are now drilling and three others are preparing to start. These tests and proposed tests will soon define or extend the new pool on a southwest northeast trend.

The well logged various oil and gas showings from 4,648 feet down to the bottom of the hole at 4,959 feet, with 5½-inch casing set and cemented at 4,779 feet. Gravity of the oil is 34.5 degrees.

Two other small pools have previously been opened in this county to the southeast, but the discovery well was the only one producing in one of them, with several dry hole drilled around it, and only two wells on production so far in the other field, which is 3 miles northeast of Seminole.

This new Wasson pool appears to be the best yet uncovered in the county, and has been an important feature in the West Texas district since the first oil and gas showings were made. Royalty and lease prices increased accordingly, and with a number of short-term leases about to expire, a development campaign was necessitated on several sections around the discovery section.

Extension in Ward County

The Estes or Hathaway area in the western part of the southern Ward County producing trend has been extended another three-quarters of a mile to the north by the West Texas Oil & Royalty Co. No. 2-C University, flowing at the rate of 200 bbls. per day from sand and lime logged from 2,397 feet to the total depth of 2,650 feet. It is located in section 6, Block 16, University lands. It will be given a nitroglycerin shot before completing, adding about 500 more proven acres to this producing territory.

SNAPPED AT ANNUAL CONVENTION, NATIONAL OIL SCOUTS ASSOCIATION, DALLAS, JUNE 25, 1937

1. J. W. Selby, Shell Petroleum Corp., Houston. 2. J. C. Hardy, San Antonio and John Langston, Dallas, Sun Oil Co.; John Shaw, Ohio Oil Co., Ardmore, Okla. 3. Dan Cameron, Carter Oil Co., Great Bend, Kans., and Lee Cornell, Stanolind Oil & Gas Co., Wichita. 4. E. G. Morehead, Tide Water Associated Oil Co., and C. H. Conway, Amerada Petroleum Corp., Shreveport, La. 5. Floyd Scott, independent operator, Fort Worth, and H. L. Curry, Deep Rock Oil Corp., Tulsa. 6. K. B. Nowells, Forrest Development Co., Abilene, Tex., who presented paper. 7. E. F. Stratton, Schlumberger Well Surveying Corp., Houston, who presented paper. 8. Hill A. Adams, Houston, and Paul Madden, Tyler, Republic Production Co. 9. Mark D. Jackman and James Hughes, Eastman Oil Well Survey Co., Dallas. Mr. Hughes presented paper.

Andrews Locations

The Drilling & Exploration Co. has staked two wildcat locations in southern Andrews County, one about three-quarters of a mile north of a recent 1-mile western extension well of the Fuhrman pool and the other about 3 miles to the northwest of the first location. The company's No. 1 Thornberry is in the NW quarter of section 8, Block A-42, and the other test is located in section 20, Block A-47, P.S.L. Survey.

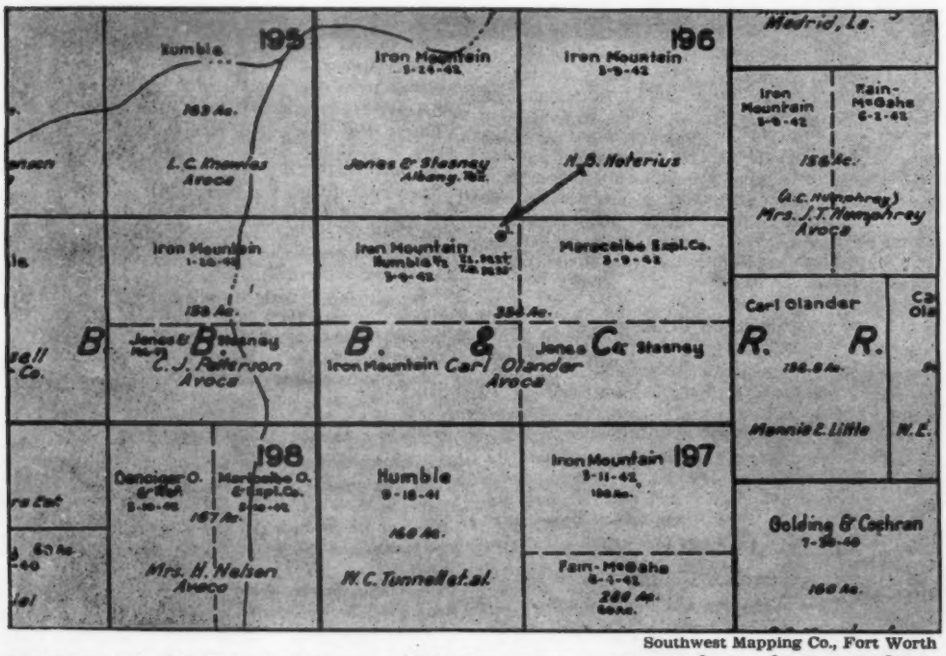
M. D. Delaney of Dallas is also drilling a semi-wildcat north of the Means field in the northeastern part of Andrews County, in the SW quarter of section 12, Block A-20, P.S.L. Survey, and is now drilling below 125 feet.

In Gaines County the Wentz Oil Corp., which is drilling a test in section 5, Block A-22, P.S.L. Survey, has staked location for another in the same area, about 1 mile southeast of the well now drilling. The new location is in section 7, Block A-22, about 2 miles southwest of the small discovery of the Landreth Production Co.

The Maverick Oil Co. has taken over the block and test of Holland of San Angelo and will drill in the NE quarter of section 16, Block B, C.C.S.D.&R.G.N.G. Survey, about 14 miles northeast of Rankin in east central Upton County. Location is about 4 miles southeast of a test abandoned at 4,355 feet by Moore Brothers of Midland and about 8 miles southeast of the deep hole drilled by the Humble Oil & Refining Co., which was abandoned at 11,700 feet over a year ago.

John Emch of San Angelo abandoned his No. 1 University, located in section 13, Block 58, University lands, in the east central part of Upton County, at a total depth of 3,701 feet. Elevation is 2,655 feet.

(Continued on Page 94)



Southwest Mapping Co., Fort Worth

Iron Mountain Oil Co.'s pool opener, which also proves a new producing horizon in Jones County, located about 3 miles east of Avoca. It is producing from a sandy lime horizon topped at 3,227 feet. Total depth is 3,233 feet

At the Scouts' National Meeting

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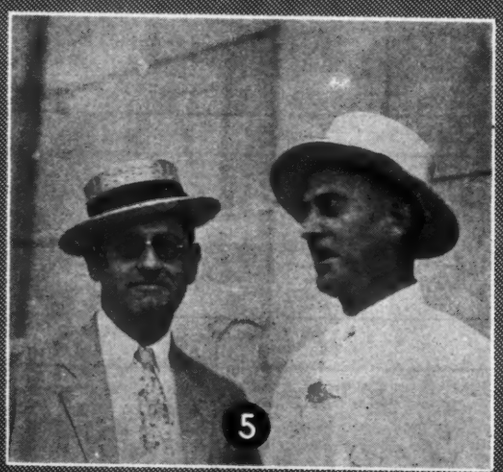
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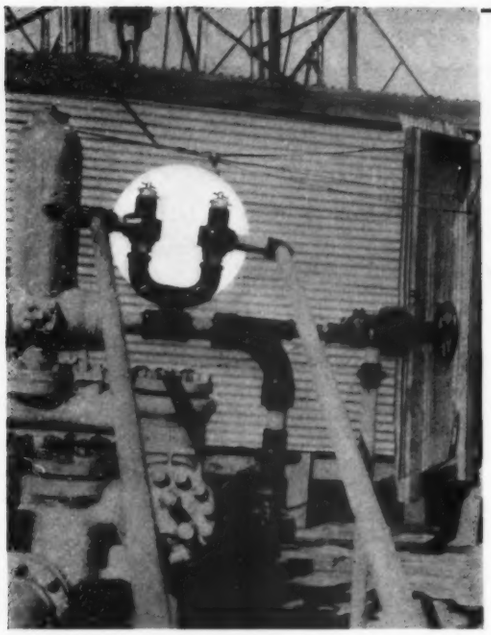

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HOUGH

Another abandonment for the district this week was that of E. L. Goos on the Henderson lands in section 148, Block 97, H.&T.C. Survey, Scurry County. It was given up as a failure at a total depth of 3,377 feet. Elevation is 2,308 feet.

Two wildcat locations were staked in Pecos County this week, one by the Phillips Petroleum Co. and the other by E. W. Francis and others. The former test is to be drilled on the Grierson lands in section 71, Block OW, T.C.R.R. Survey, about 10 miles northwest of Fort Stockton and in an area in which a couple of small shallow producers were previously drilled. The latter location is on lands of the Hadden Estate, in section 166, R. Phares Survey, only 2 miles west of Fort Stockton. A recent test about 3 miles northwest of the city first showed for a small producer. It failed to make a commercial well, but the showing no doubt was responsible for this second test being drilled in the vicinity of the city. A couple of tests also drilled in the city about 8½ years ago logged good showings of oil, but did not produce commercially.

Ward County Wildcat Untested

Mahres and others No. 1 Pat Wilson, a wildcat about 6 miles west of Pyote in Ward County, is still shut down at 5,085 feet, with some 4,000 feet of oil in the hole from Delaware sand. It also showed 2,000,000 feet of gas per day and is expected to make a producer and consequently open another Delaware sand field for the West Texas district. It is in section 133, Block 34, H.&T.C. Survey.

Ordovician Test

Moore Brothers Corp. of Midland have staked location for No. 1 Paul Perner, in section 37, Block 2, I.&G.N. Survey, in the west central part of Crockett County, where they intend to drill to 8,000 feet in quest of production in the Ordovician. The brothers obtained the block from the Standard Oil Co. of Texas. There is one other Ordovician test being drilled in the county, Superior Oil Co. of California No. 1 Todd, in section 55, Block UV, G.C.&S.F. Survey, northeast of the new Ordovician location. That test is now below 6,700 feet, drilling ahead.

The Plymouth Oil Co. has taken a block of 13,000 acres in the north central part of Sterling County, all leases falling entirely in Block 2, H.&T.C. Survey.

WEST CENTRAL AND NORTH TEXAS

Henry Zweifel and others of Fort Worth have opened a pool in Young County, about 3½ miles south of the Nash and Windfohr pool, west of Graham. It is located on the E. S. Graham lands, in section 1, B.S.&F. Survey. The pay, Caddo lime, was topped at 3,471 feet, and the hole bottomed at 3,495 feet, where it was treated with 5,000 gallons of acid. In 24 hours it flowed 106 bbls. of oil, showing a slight amount of water. It is on a block of 4,000 acres.

The same operators' No. 1 Newell, in the M. Case Survey, about 6 miles east of Graham and about 2 miles east of the gas and oil pool opened the early part of the year by the Eppenauer Drilling Co., topped the gas sand at 4,030 feet and was making 12,000,000 feet of gas per day at that depth, which is about 100 feet higher than gas was struck in the Eppenauer discovery.

L. A. Long is contractor on a well for a 4,000-foot test to be drilled 3 miles northeast of Graham by S. S. Alexander of Fort Worth. Orville Tunstill of Fort Worth assembled a block of some 1,700 acres, on which a previous test proved dry after encountering good showings of oil and gas. The second test will be located about 1,200 feet due south of the failure.

Bolivar Area

L. J. Rea and others, who hold about 160 acres three-quarters of a mile south of the Landers discovery west of Bolivar, have staked location for No. 1 Freeman. In the Mary Bradshaw land, which is also about three-quarters of a mile west of the recent gas discovery on the Knox farm. Location of this test is important as it is nearly half way between the oil discovery and the gas discovery, and may help to connect the two.

South Bend Strike

A new horizon for the old South Bend field in southern Young County has apparently been uncovered by Hickok and others on the A. P. Martin farm, in the V. T. Twillinger Survey. This location is about 4 miles west of South Bend and about 1½ miles west of the nearest production. The now horizon, above

the regular pay found in the field, was logged at 2,103 feet and the well shut down 5 feet in the new pay to make a bailing test. It bailed 50 bbls. of 40-gravity oil per day, and may be completed at the present depth, although the regular pay is struck around 2,800 feet, and if the well does not prove of sufficient caliber to warrant producing from this upper sand, it will be carried to the regular pay zone for completion.

COMPLETIONS IN WEST TEXAS

Andrews County

Fuhrman Petroleum Co. No. 6-B Boner, 4,500 feet, plugged back to 4,493 feet, 818 bbls. per day.

Crane County

Boescke No. 1 Hughes, 2,025-85 feet, 811 bbls., acidized. B. Fields No. 7 Gibbs, 2,266-70 feet, acidized, 801 bbls. on pump. Humble Oil & Refining Co. No. 12 Tubbs, 4,300-4,435 feet, acidized, 369 bbls. in four hours. Texas Consolidated Oil Co. No. 7 Hughes, 2,089-96 feet, acidized, 658 bbls. on pump.

Ector County

William Dunning, Jr., No. 2-A Scharbauer, 4,174-4,225 feet, acidized, 1,167 bbls. Gulf Oil Corp. No. 25 Goldsmith, 4,130-4,227 feet, acidized, 1,416 bbls. Landreth Production Co. No. 4-D Scharbauer, 4,250 feet, acidized, 1,468 bbls.; No. 4-F Scharbauer, 4,170-4,228 feet, acidized, 1,480 bbls.; No. 5-G Scharbauer, 4,174-4,224 feet, acidized, 1,214 bbls. Rogers and Rogers No. 1 TXL, dry and abandoned 4,335 feet. Rushwold Oil Co. No. 1 Connell, 3,532-3,636 feet, 352 bbls. Shell Petroleum Corp. No. 1-B Cummins, 4,220-60 feet, acidized and shot, 236 bbls. on pump. Stanolind Oil & Gas Co. No. 50 Cowden, 4,005-4,297 feet, shot, 442 bbls.; No. 4-B Cowden, 4,000-4,170 feet, shot and acidized, 1,509 bbls.

Gaines County

Shell Petroleum Corp. No. 1 Amerada-Humble-Mann, 5,060 feet, 592 bbls., 15 per cent b.s.&w., elevation 3,-347 feet; acidized.

Howard County

Johnson & Bruce No. 1 W. T. Scott, 1,332-51 feet, shot, 15 bbls. on pump. Magnolia Petroleum Co. No. 2 Kelly-Roberts, dry and abandoned 3,267 feet. O. M. Murray No. 3 Logan, 2,622-2,845 feet, 573 bbls. Superior Oil Co. No. 35-B Roberts, 2,275-2,981 feet, 2,088 bbls. on pump.

Pecos County

B. C. Mann and others No. 1 University, 1,643 feet, acidized, 132 bbls. on pump.

Scurry County

E. L. Goos No. 1 Henderson, dry and abandoned 3,-377 feet, elevation 2,308 feet.

Upton County

DeVore and Minish No. 2 Burleson, 2,040-2,155 feet, 500 bbls. on pump. J. Emch No. 1 University, dry and abandoned 3,701 feet, elevation 2,655 feet. Gulf Oil Corp. No. 5-B Hughes, 2,120-2,217 feet, acidized, 216 bbls. on pump, 19 per cent b.s.&w.; No. 2-C Lane, 2,217 feet, acidized, 12 bbls. per hour on pump; No. 10 Shirk, 2,278-95 feet, acidized, 835 bbls. on pump.

Ward County

Amerada Petroleum Corp. No. 6 McDonald, 2,245-2,425 feet, shot, 657 bbls. Atlantic Refining Co. No. 28 Johnson, 2,430-2,550 feet, shot, 357 bbls. Clark and others No. 1 Green, 2,357 feet, 310 bbls. Gulf Oil Corp. No. 83 O'Brien, 2,615-2,767 feet, shot, 951 bbls. Humble Oil & Refining Co. No. 16 Richter, 2,839-2,962 feet, shot, 1,204 bbls. Sinclair Prairie Oil Co. No. 9 Archenhold, 3,044 feet, plugged back to 3,032 feet, acidized, 395 bbls. on pump. Turman Oil Co. No. 8 Llano-Sloan, 2,451-73 feet, shot, 224 bbls. on pump.

Winkler County

Eastland Oil Co. No. 7 Pure-Clapp, 3,160 feet, shot, 996 bbls. Emperor Oil Co. No. 1-C Halley, 2,907 feet, shot, 1,061 bbls. Emperor and others No. 1 Thompson-Cowden, 2,950 feet, shot, 955 bbls. Gulf Oil Corp. No. 43 Daugherty, 2,803-3,143 feet, shot, 747 bbls. Humble Oil & Refining Co. No. 19-A Colby, 2,805-3,115 feet, shot, 887 bbls.; No. 14-C Colby, 2,786-3,085 feet, shot, 1,026 bbls. Magnolia Petroleum Co. No. 86 Walton, 2,770-2,-920 feet, shot, 834 bbls.; No. 88 Walton, 2,811-2,961 feet, shot, 876 bbls. Navarro Oil Co. No. 3 Vaden, 2,768-3,050 feet, shot, 557 bbls. Skelly Oil Co. No. 20 Halley, 2,765-

(Continued on Page 98)

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East and East Central Texas

By L. E. BREDBERG

DEEP CAYUGA FIELD TEST IS CREATING MOST ATTENTION

DALLAS, Tex., July 3.—Those interested in the East Texas district are now waiting the outcome of Roeser-Pendleton, Inc. No. 3 V. W. Bowyer, in the E. Ritter Survey, western part of the Cayuga field, in northwestern Anderson County. It is a Trinity test. The operators have been circulating with oil, and swabbing through tubing, the well heading at intervals and then going dead, the fluid level remaining around 5,000 feet.

After flowing 1½ bbls. per hour for several hours on gas lift, it was given a 10,000-gallon acid treatment, using 50 pounds pressure. It is now being cleaned out and is expected to make some kind of a commercial producer. Bottom of the hole is 7,679 feet. Gravity of the oil is 43 degrees, and is light yellow in color. This is the third Trinity test drilled in this field, the Tide Water Associated Oil Co. and Seaboard Oil Corp. drilled two that proved only gas-distillate wells. The same two companies also drilled a Trinity test 20 miles south in the Long Lake field, in the southwestern part of the same county, but it was a dry hole, not even making gas.

If No. 3 Bowyer proves a commercial producer from the Glen Rose, it will be the first one in the East Central Texas district put on production. A previous test at Opelika, in the northeastern corner of Henderson County, showed for a well, but failed to make a commercial producer because the drill stem was stuck in the hole. The Opelika area will prove a Glen Rose field. The Tide Water Associated, Seaboard and Humble Oil & Refining Co. are drilling their second test on the Opelika structure, at 5,626 feet, which will no doubt make a well and prove that field to Trinity production. The Bowyer well in the Cayuga field will be completed within the next few days. Seven-inch casing is set at 7,598 feet in the well.

Three Other Trinity Tests

Three other Trinity tests in the district do not appear encouraging at this writing, but they may still have possibilities of making deep producers.

Magnolia Petroleum Co. No. 2 Chapman, in the George Dyer Survey, on the east side of the Talco field, in northeastern Titus County, has 7-inch casing set at 5,567 feet. The test showed some salt water on a drill stem test. It was drilled to 5,680 feet, but was plugged back to 5,620 feet and is now waiting for cement to set. Its outcome will soon be known.

This is the second test on the east side of the Talco field to be carried down in quest of production from the Glen Rose. A previous well drilled about 2 miles farther to the east by Stroube & Stroube proved dry. The regular pay horizon in the field is the Paluxy sand, upper member of the Trinity. Talco was the first Paluxy sand field opened in the district.

Another Trinity test, Pure Oil Co. No. 16 Kendrick, located on the Mexia fault line and in the Mexia field in Limestone County, showed but a puff of gas; 1,100 feet of drilling fluid cut with gas, and 300 feet of mud, when a drill stem test was made at 5,552-5,646 feet, using three-eighths inch chokes on top and bottom, with chokes open 1 hour and 15 minutes. It now has a fishing job.

In the Van Field

The Van field Trinity test of Humble Oil & Refining Co., located on the Riggs farm, in the W. Daniels Survey, on the east flank of the Van structure, is coring past 5,670 feet, and looks like another dry Trinity test for that field, in which three previous deep dry holes have been drilled. One of these was on the east flank, south of this test, abandoned several months ago by the American Liberty Oil Co. A test drilled by the Humble Oil & Refining Co. was junked, and the Pure Oil Co. got a failure in the Trinity on the northwestern flank of the structure.

The Stanolind Oil & Gas Co. has had a bad fishing job, caused by stuck drill pipe, in its No. 1 J. P. Hawks, in the R. Ragsdale Survey, just west of Campbell along the Mexia-Talco fault line in the northeastern part of Hunt County. Total depth of the hole is 6,570 feet, where the operators plan on setting pipe with intentions of carrying the hole to below 9,000 feet. The pipe was stuck at 6,245 feet. This test is located on one of the most favorable looking structures in the district, but failed to pay off in either the Paluxy or Upper Glen Rose sections of the Trinity.

Another Failure

John W. Merritt and others No. 1 Tipps, in the Thomas Uzzell Survey, 3½ miles south of the southern tip of the East Texas field, has proven a dry hole at a total depth of 3,886 feet, after drilling into salt water in the Woodbine at 3,885 feet. Some saturated sand was logged in the test, salt water coming in when the hole was swabbed, as was the first test drilled in this area.

Red River Test

The Texas Trading Co. of Tyler has made a location on lands of the Southern Pine Lumber Co. in the D. B. Bruton Survey, 12 miles north of Clarksville, in Red River County, for a Glen Rose test. This location is only 800 feet southeast of the Harrison & Abercrombie No. 1 Southern Pine test, which proved a failure last year when drilled to the Glen Rose, although it logged some oil and gas showings.

Test in Wortham

The old Wortham field in Freestone County is to get a new test, the Pansy Oil Co. having made location on the R. B. Longbotham lands, in the C. E. Weaver Survey, in the northwestern part of Wortham.

East Texas Money in East Texas

Sam R. Greer, president of the Kilgore National Bank at Kilgore, Tex., in the heart of the vast East Texas field, called a meeting of a group of East Texas bankers some time ago in regard to pooling together and handling the large oil loans that have been leaving East Texas and going to New York City, Chicago and other large banking centers in the country. The idea was for the banks of 14 or more East Texas towns to combine to handle such loans and keep East Texas money in East Texas. What was done about the matter was not reported, but it is known that several large loans have been made with banks outside of East Texas since the meeting was called.

Dry Hole

Another dry hole has been added to the Hopkins County list since the discovery of the Paluxy sand field at Sulphur Bluff several months ago. This new failure was drilled in the western part of the county, between Brashear and Cumby by the J. Carpenter Oil Co. on the Gillis farm, in the W. A. Smith Survey. It was given up as dry at 4,490 feet, elevation 593 feet.

EAST TEXAS COMPLETIONS

Gregg County

Arkansas Fuel Oil Co. No. 7-A Harrison, 3,581-3,600 feet, 22 bbls. per hour; Atlantic Refining Co. No. 69 Moore, 3,510-3,640 feet, 92 bbls. per hour; No. 74 Moore, 3,502-3,635 feet, 101 bbls. per hour. Atlantic and Sun Oil Co. No. 78 Hayes, 3,507-3,608 feet, 110 bbls. per hour. J. W. Crowley and others No. 2 Christian, 3,547-72 feet, 50 bbls. per hour. Empire Oil & Refining Co. No. 18 Bumpas, 3,510-68 feet, 22 bbls. in 15 minutes. Gulf Oil Corp. No. 28 Fishburn, 3,474-83 feet, 60 bbls. per hour. Dan LaRoe No. 2 De Moss, 3,640-46 feet, 20 bbls. in two hours on pump. Joe Lang Drilling Co. No. 9-A Owens, 3,630-72 feet, 17 bbls. in 30 minutes. Skipper No. 3 Snoddy, 3,582-3,602 feet, 60 bbls. per hour. Stanolind Oil & Gas Co. No. 10-A Thrasher, 3,520-87 feet, 47 bbls. per hour. Texas Co. No. 16 Woods, 3,566-73 feet, 25 bbls. in 30 minutes. Tide Water Associated No. 17 Moore, 3,517-52 feet, 11 bbls. in 10 minutes. O. D. Adams No. 3 Still, 3,542-68 feet, 15 bbls. in two hours on pump. B & R Investment Co. No. 2-B Bean-Willoughby, 3,534 feet, 34 bbls. in 30 minutes. Empire Oil & Refining Co. No. 8 Muckleroy, 3,533-63 feet, 25 bbls. in 15 minutes. Ford Oil Co. No. 2 Faircloth, 3,521-40 feet, 75 bbls. in two hours. E. J. Gray No. 1 Hale, 3,553-85 feet, 23 bbls. hour. Gulf Oil Corp. No. 5 Elder, 3,521-33 feet, 60 bbls. per hour. Potter Brothers Production Co. No. 3 Alexander, 3,505-14 feet, 10 bbls. per hour. Shell Petroleum Corp. No. 67 Watson, 3,540-85 feet, 40 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 19-B King, 3,446-85 feet, 15 bbls. in 15 minutes. Sun Oil Co. No. 16 Rollins, 3,531-62 feet, 65 bbls. per hour; No. 17 Rollins, 3,619-40 feet, 60 bbls. in 70 minutes. Tide Water Associated No. 12-8 Bean, 3,574-3,647 feet, 5 bbls. in five minutes. Welch & Sandler No. 12 Barnett, 3,740-47 feet, 45 bbls. in two hours.

Rusk County

Gulf Oil Corp. No. 17 Jerigan, 3,675-90 feet, 75 bbls. per hour. Humble Oil & Refining Co. No. 7 Roberson, 3,602-10 feet, 40 bbls. per hour. Magnolia Petroleum Co. No. 19 Moore, 3,646-71 feet, 20 bbls. in 15 minutes. C. L. McMahon No. 12 Laird, 3,622-31 feet, 25 bbls. in 30 minutes. Natural Petroleum Co. No. 1 Ephram, dry and abandoned 3,712 feet. Texas Co. No. 11 Chappell, 3,672-75 feet, 24 bbls. in 30 minutes. British American Oil Co. No. 7 Mayfield Co., 3,616-19 feet, 37 bbls. in 30 minutes. Gant and others No. 39 Moore, 3,535-55 feet, 16 bbls. per hour. F. D. Jones No. 7 Moore, 3,631-62 feet, 30 bbls. in 30 minutes. Ohio Oil Co. No. 21 Guerin, 3,597-3,653 feet, 48 bbls. per hour; No. 16 Griffin, 3,619-3,700 feet, 20 bbls. in one and one-half hours on pump; No. 17 Griffin, 3,650-3,727 feet, 20 bbls. in one and one-half hours on pump. A. V. Riley No. 1 Curtis, 3,612-14 feet, 25 bbls. in 10 hours on pump. Snetcher & Pittman No. 6 Cox, 3,651-88 feet, 42 bbls. in 45 minutes. Stanolind Oil & Gas Co. No. 30-A Maxwell, 3,746-89 feet, 55 bbls. per hour; No. 16 Milstead, 3,670-3,755 feet, 43 bbls. per hour. Termo Oil Co. No. 12-A Fox, 3,744-53 feet, 65 bbls. per hour.

Smith County

B & B Oil Co. No. 2 Jackson & Atterbury, 3,838-39 feet, 20 bbls. in 30 minutes. Iowa-Payne Oil Co. No. 4 Wilson, 3,750-51 feet, 60 bbls. in three hours. Magnolia Petroleum Co. No. 22 Irion-Wright, 3,667-70 feet, 22 bbls. in 15 minutes. Roosth-Genecov No. 7 Bateman, 3,767-67½ feet, 45 bbls. per hour. Wheelis Oil Corp. No. 16 Smith, 20 bbls. in 15 minutes.

Cherokee County

Texas Canadian Oil Co. No. 3-B Kelley, 3,700-01 feet, 25 bbls. per hour, agitating.

Upshur County

W. W. Bradley No. 9 O. F. Smith, 3,605-14 feet, 30 bbls. per hour. E. E. Burks No. 1 Medlin, 3,735-36 feet, 20 bbls. per hour. J. Coates No. 4 Bowie, 3,600-02 feet, 67 bbls. per hour. Dean Brothers No. 10 Victory, 3,680-84 feet, 20 bbls. in 45 minutes. E. C. Johnston No. 6-B fee, 3,709-17 feet, 30 bbls. per hour. M. M. Johnston No. 6 Williams, 3,718-20 feet, 20 bbls. per hour. Lester & Duffield No. 5 Jones, 3,735-36 feet, 30 bbls. per hour. Magnolia Petroleum Co. No. 7 Fenton, 3,744-64 feet, 30 bbls. per hour. P. H. Pewitt No. 7 Jones, 3,774-75 feet, 20 bbls. in 30 minutes. B. F. Phillips No. 1-C Euphrates,

(Continued on Page 102)

Kansas Developments

By
DAL DALRYMPLE

BARTON, CHAUTAUQUA TESTS FIND SILICEOUS LIME OIL PAY

A sector of Barton County, Kansas, heretofore condemned by several dry holes, made a new claim for recognition the past week when a wildcat being drilled by S. E. Bailey and C. L. Craft at No. 1 Hammeke, NE NE SW section 12-18-12w, found oil pay.

It topped Siliceous lime at 3,417 feet, with pay at 3,419-20 feet, it was reported. On deepening to 3,427 feet, the hole started filling with oil, the column rising 700 feet. Five-inch pipe was set to 3,369 feet and operators planned to underream to top of the Siliceous lime before testing. The wildcat is about 4 miles northwest of the Feist pool and in a general area in which several failures have been drilled.

A new Siliceous lime pool apparently has been opened in Chautauqua County by E. E. Robinson of Moline and C. E. W. Skiles of Hutchinson. Their No. 1 Foster, SW cor. section 6-33-12, wildcat 8 miles northeast of Sedan and northwest of the Monett pool, was estimated good for 1,500 bbls. of oil daily from the lime at 2,200 feet.

Pryor & Lockhart No. 1 Gant, C SE section 7-31-13w, pool opener in Barber County, flowed 771 bbls. of oil in 12 hours and made potential of 1,351 bbls. Production was from Viola lime at 4,433-38 feet, total depth. Observers were of the opinion that production also might be found in this area from the Wilcox sand and Siliceous lime, but that remains for the drill to prove or disprove. The Gant was shut in for connections after testing. The nearest pipe line outlet is that of Skelly Oil Co. in the Cunningham field, about 30 miles northeast. Several tests were expected to be started soon on leases near the Gant wildcat.

Estimated Daily Production

Estimated daily production of Kansas for the week ending July 3, and for the preceding week, was as follows:

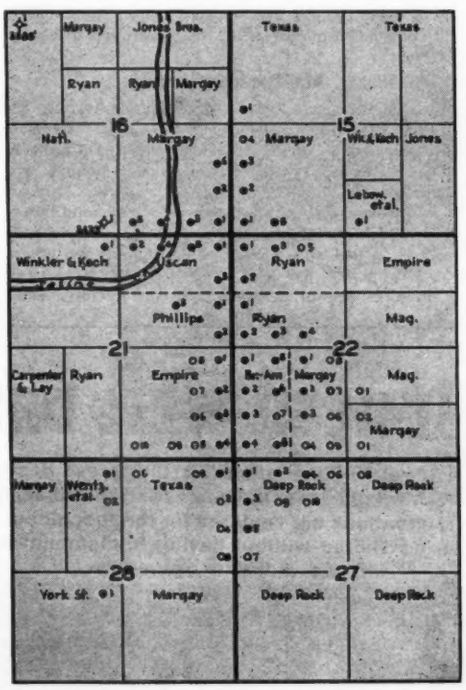
	Barrels	
	July 3	June 26
Oxford City	1,725	1,725
Burrton	14,225	14,475
Ritz-Canton	5,625	5,625
Graber	3,075	3,525
Hollow-Nikkel	2,850	2,875
Lerado	2,350	2,650
Voshell	2,175	2,150
Wellington	2,600	2,650
Ellsworth County:		
Lorraine	4,700	5,000
Other pools	1,305	1,360
Rice-Barton counties:		
Bloomer	4,125	5,375
Chase	8,300	9,650
Geneseo	2,425	2,200
Raymond	1,625	1,675
Silica	17,650	20,100
Keesling	1,750	1,750
Hauschild	2,575	2,575
Miscellaneous Rice	10,000	9,800
Miscellaneous Barton	5,390	4,890
Russell County:		
Fairport	2,240	2,330
Gorham-East Gorham	1,875	2,470
Russell	2,280	2,425
Sullivan	8,450	8,130
Trapp	10,295	8,715
Miscellaneous Russell	6,715	6,790
Sedgwick County:		
Valley Center	1,265	1,250
Miscellaneous	3,100	3,095
Ellis County:		
Bemis	3,525	4,700
Miscellaneous	3,230	3,625
Kingman County	580	630
Stafford County	3,280	3,560
Greenwood County	9,575	9,650
Butler County	16,000	16,050
Other fields	26,120	25,555
Total Kansas	193,000	199,025

Potential Hearing

Two plans for taking potentials of Kansas wells were suggested at the hearing before the Kansas Corporation Commission in Wichita last week, but the hearing was recessed Friday until Thursday of this week without official action being taken. Ten witnesses remain to be heard, according to E. E. Blincoe of Topeka, chairman of the commission.

A majority of Kansas operators were reported favoring a plan to eliminate physical testing of each well as now required, with a minority favoring physical test potentials. Don R. Knowlton, Phillips Petroleum Co., outlined the majority plan group, and R. W. Bond, Shell Petroleum Corp., submitted the minority report.

The majority plan provides for establishment of minimum allowables of 15 bbls. daily on wells of 2,000 feet depth, 25 bbls. daily on wells from 2,000 to 4,000 feet deep, 35 bbls. daily on wells from 4,000 to 6,000



The Bemis field in Township 11s-17w is one of the busiest areas in Kansas, with many tests starting and several near completion

feet deep, and 50 bbls. daily on wells deeper than 6,000 feet. It was recommended in the majority report that potential tests be made on all wells, retaining existing restrictions as to size of tubing and working barrel and length of stroke. It was urged that after taking of initial potential tests that potentials be determined by using a composite withdrawal decline curve based on history of representative wells throughout the state.

No well under this plan would be given a potential exceeding 2,500 bbls. daily, this maximum figure being recommended to give allowances for increased production that may be obtained through gas agitation during pumping tests. Wells originally testing 2,500 bbls. may be retested at six-month intervals if desired until the wells gauge less than 2,500 bbls. Thereafter the wells will be placed on the decline curve at its proper point. Wells rated at less than 2,500 bbls. will be adjusted at three-month intervals by application of the withdrawal curve. The initial potential gauges shall be of eight hours duration, the majority plan provides, with tanks being gauged every hour. The total yield for the last four hours will be multiplied by six to determine the daily potential.

The minority plan provides for potential tests at six-month intervals, with no arbitrary decline to be used in place of the tests. It is proposed that the potentials be determined according to normal production methods of respective wells, such as pumping and flowing, with no swabbing tests permitted.

This plan provides that 12-hour tests be taken in fields with an average well potential exceeding 300 bbls., multiplying by two for the 24-hour potential. Full 24-hour tests were recommended for fields where wells average between 75 and 300 bbls. daily. Similar 24-hour tests were urged for fields with less than 75-bbl. averages, the total production to be divided by two to get the potential. It also was recommended by the minority group that all wells which produce on potential basis be given initial potential tests with a 60-day retest, followed by periodic six-month tests for the field in which the producing wells are tested. The 60-day retest may be canceled if it comes within 30 days of the six-month field test. If a field with adequate pipe line facilities fails to make its allowable for two months in succession, it was recommended that the potential be reduced to the daily average production of the second month or the operator take new potential. It was urged that flowing wells be given 14-hour tests, with the first two hours disregarded.

Activity in Fields

Barbara Oil Co. No. 1-B Holmes, C NW NW section 27-33-13w, Barber County wildcat, 1½ miles southwest of Medicine Lodge gas and oil pool, found Viola lime at 4,813 feet, was bottomed at 4,828 feet, and operators were preparing to test. Pipe was set at 4,550 feet. It topped Chat at 3,488 feet, Kansas City lime 3,980 feet.

Morgan & Flynn and Deep Rock Oil Corp. No. 3 Koriel, CSL NW section 23-18-16w, Otis area, Rush County, was estimated as a 1,000-bbl. oil well, with gas gauging from 80,000,000 to 90,000,000 feet. It was bottomed in Reagan sand at 3,555 feet. Pipe was set at 3,500 feet.

In Rooks County, Leavell Coal Co. No. 1 Baxa, SW SW NW section 12-9s-17w, had Lansing lime at 3,146-3,255 feet, and oil rose 2,650 feet in the hole in 18 hours. It swabbed 15 bbls. of oil an hour and fluid column was lowered to 500 feet off bottom. It was treated with 3,000 gallons of acid and produced 50 bbls. of oil an hour on preliminary test, and preparations were being made for potential test.

Shell Petroleum Corp. No. 1 Sporn, NE NE SE section 26-20-11w, south of the Peter area, Barton County, pumped 300 bbls. of fluid, half oil and half water, in eight hours, averaging 30 bbls. of fluid hourly the last three hours.

New Rice County Area

Fred Phillips and others No. 1 Hubenett, SW NW SW section 23-20-6w, apparently has opened a new producing area in Rice County. The wildcat is northeast of the Welch pool. It pumped 207 bbls. of oil in 13 hours without exhausting the fluid, and was still testing. It had Chat at 3,325-66 feet. Five-inch casing was set to 3,334 feet.

Prospects for opening a pool in western McPherson County were good, as 2,800 feet of oil rose in the hole at C. R. Craft and Bradley Brothers No. 1 Barnholdt, SW SW SE section 30-20-5w, from total depth of 3,333 feet in Chat topped at 3,292 feet. Operators were expected to acidize the well. It is about 18 miles southwest of McPherson and, if completed as a producer, will open the first pool in the western part of the county.

The wildcat being drilled in Butler County by H. L. Mourer and Saco Oil Co. at No. 1 Connell, NE NE SW section 27-29-5e, was being closely watched and was given a good change to produce. It topped Lansing lime at 1,818 feet and was running higher geologically than

other tests drilled in this general area, which is on the Keighley trend 2 miles southwest of the Fox-Bush field. It is to be a Bartlesville sand test and was drilling ahead below 2,100 feet.

In McPherson County

Shawver Oil Co. No. 1-C Fletcher, SW SE SW section 17-19-1w, at northeast edge of the Ritz-Canton field, McPherson County, topped Viola lime at 3,373 feet, had a show of oil at 3,383 feet and was drilling ahead in Wilcox sand.

Empire Oil & Refining Co. No. 1 Hall, NE cor. section 14-11-17w, wildcat northeast of Hays in Ellis County, topped anhydrite at 1,015 feet and was drilling ahead below 2,000 feet. This test is interesting, because, if a producer, it may connect the Bemis and Cress pools. The Bemis field, Ellis County, currently is one of the busiest areas in Kansas, large producers being completed practically every week.

The revival in drilling, leasing and general field activity that has come to old eastern Kansas areas in recent months is reported extending into Douglas County, of which Lawrence is the county seat. Several geologists have studied areas in this county and various geologic surveys have been made in recent months. A Tulsa company and a well-known Kansas geologist are reported preparing to drill a test on a block about 9 miles southwest of Lawrence. Some other tests are reported under way in this district, which is thought to be in line for a big play. More than 50,000 acres are reported under lease in the county.

New Kansas Operations

Lario Oil & Gas Co. and Vaccars Corp. No. 3 Whelan, NW cor. section 32-31-11w, was location for a new test in the Whelan pool, Barber County.

The following new work was reported in Ellis County: Empire Oil & Refining Co. No. 9 Bemis, SE SW SE section 21-11-17w, location; same operator's No. 10 Bemis, SW SW SE section 21-11-17w, location; Margay Oil Co. No. 2 Johansen, NW SW SE section 22-11-17w, location; Ryan Consolidated Co. No. 5 Bemis A, NW NE NE section 22-11-17w, location; L. H. Wentz No. 2 Bemis, SE NE NW section 22-11-17w, rig; Deep Rock Oil Corp. No. 10 Baumer, SW NE NW section 27-11-17w, location; Alva Billings No. 1 Oswald, NE SE SW section 11-12-16w, location; J. A. Aylward and others No. 2 Meis, SE SE NW section 6-12-17w, location; Western Kansas Oil & Refining Co. and Aylward No. 1 Schmeidler, NW cor. section 22-12-17w, wildcat, location; C. E. W. Skiles and others No. 1 Jensen, SW SE NE section 26-12-18w, wildcat, rig; L. M. Reynolds and others No. 1 Polcyn, SE SE NE section 24-13-16w, wildcat, location.

New activity in Russell County included the following: Mid-Continent Petroleum Corp. No. 1 Letsch, SW SW NW section 26-14-13w, rig; Transwestern Oil Co. No. 8 William Polcyn, SE SW SW section 11-14-15w, rig; National Refining Co. No. 3 North Reinhardt C, NE NW SE section 25-14-15w, rig; Carter Oil Co. No. 3 Josephine, SE NE SE section 7-15-13w, location; W. I. Southern, Inc. No. 3 L. Sellens A, SE SE SW section 26-15-13w, location; Phillips Petroleum Co. No. 14 Hoffman, SE SW SE section 31-15-13w, rig; Coralena Oil Co. No. 3 Deines, SE NE NE section 36-15-14w, rig.

In Barton County the following new work was reported: Empire Oil & Refining Co. No. 3 Wittig, NE NW NW section 16-16-13w, rig; National Refining Co. No. 7 McLean, SE cor. section 25-17-11w, location; Lario Oil & Gas Co. and Atlantic Refining Co. No. 1 Zahorsky B, NE SE NE section 23-20-11w, location; Lario Oil & Gas Co. and Indian Territory Illuminating Oil Co. No. 2 Zahorsky A, SE NE NE section 23-20-11w, location.

McPherson County

H. & M. Drilling Co. No. 4 Sellers, SW SE NE section 31-19-1w, McPherson County, was a location. Western Kansas Oil & Refining Co. No. 1 Unruh B, NW NE SE section 31-19-1w, McPherson County, was a location.

In Ellsworth County, Continental Oil Co. and others No. 1 Buehler, SE cor. section 33-17-8w, an old well to be deepened, was a rig, and Fred Jones and others No. 2 Byers, NW SW NW section 18-17-10w, was a rig.

First reports of new work in Rice County: Shell Petroleum Corp. and others No. 1 Grizzell, C W half W half SW section 5-19-9w, rig; Stanolind Oil & Gas Co. No. 9 Mitchell, SE NW SW section 32-19-10w, rig; Bridgeport Machine Co. and others No. 1 Habiger, NW cor. section 5-18-10w, location; Reserve Development Corp. No. 8 Patton, SE NE NW section 16-21-7w, location; D. R. Lauck No. 2 Heter, NE SE SE section 1-21-8w, rig.

California-Illinois-Kansas Oil Co. No. 1 Hughes, SW NW SE section 13-22-9e, wildcat in Chase County, was moving in material.

New work in Woodson County included: Oko Oil Co. No. 9 Bahr, C SE NW section 23-23-13, rig; Henderson Oil Co. No. 4 Vostarz, NW NE SE section 23-23-14, drilling at 1,620 feet; same company's No. 5 Vostarz, SW SE NE section 23-23-14, drilling at 460 feet; Kelly and others No. 1-A Mason, SE SE NE section 14-25-13, drilling ahead; C. L. Sheedy and others No. 3 College, C

(Continued on Page 105)

West Texas Fields

(Continued from Page 95)

2,888 feet, shot, 382 bbls. through 1-inch choke. Sun Oil Co. No. 7 Hailey, 2,754-2,868 feet, shot, 515 bbls. Texas Pacific Coal & Oil Co. No. 2 Brown & Altman, 3,050 feet, shot, 250 bbls.

NORTH TEXAS COMPLETIONS

Cooke County

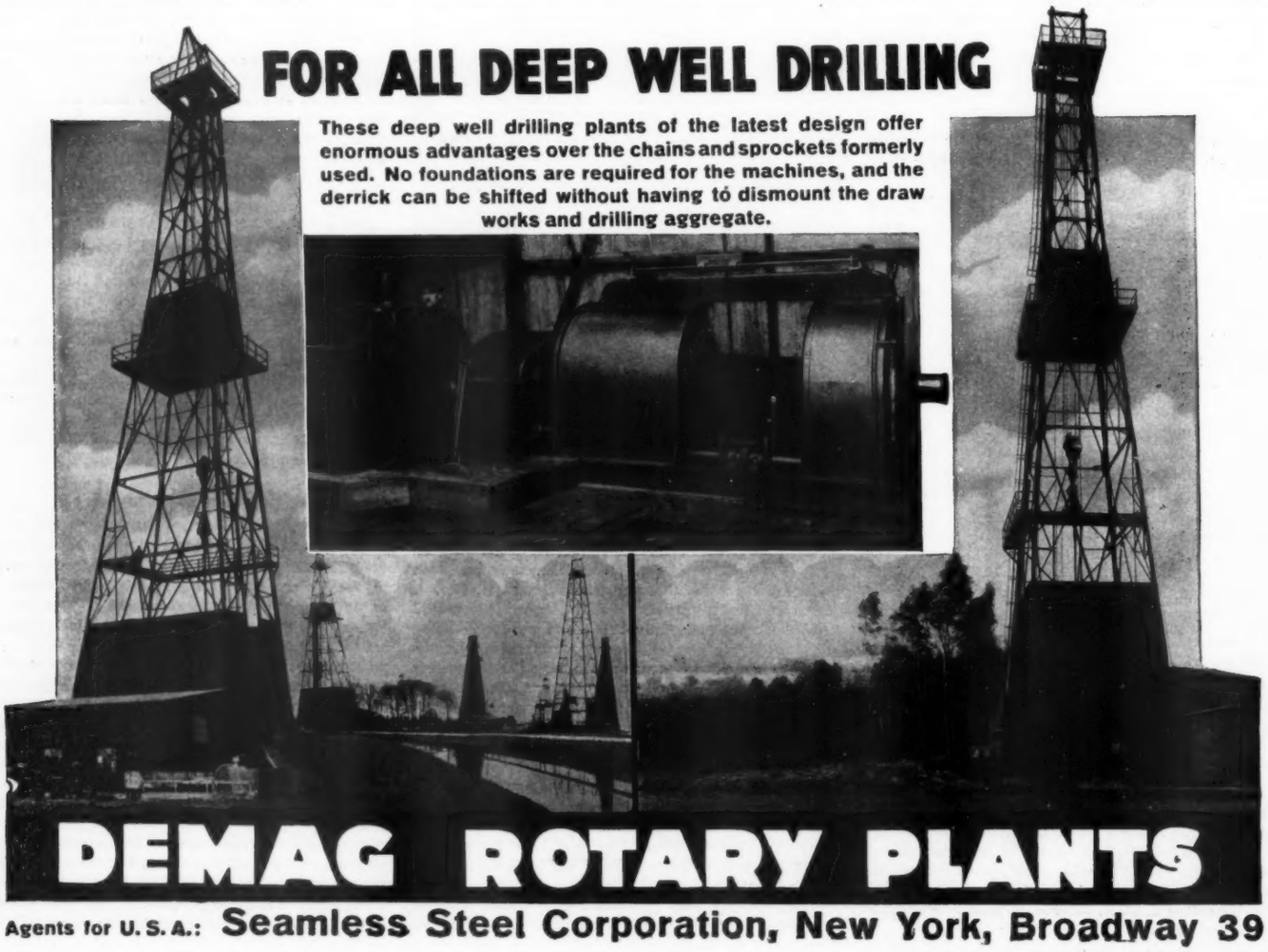
Greathouse and others No. 1 Ed Wilson, 1,908-42 feet, 380 bbls. Kingery Brothers & Temples No. 1 F. J. Hess, 882 feet, dry.

Denton County

A. A. Landers and others No. 1 Gibson Brothers, 1,597-1,600 feet, 5,000,000 ft. gas.

Archer County

Bridwell Oil Co. No. 30 Oil Investment Co. B, 1,475 feet, dry. Deep Oil Development Co. and others No. 19 L. F. Wilson, 2,238-55 feet, 157 bbls. Duncan & March-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These deep well drilling plants of the latest design offer enormous advantages over the chains and sprockets formerly used. No foundations are required for the machines, and the derrick can be shifted without having to dismount the draw works and drilling aggregate.
DEMAG ROTARY PLANTS
Agents for U. S. A.: Seamless Steel Corporation, New York, Broadway 39

man No. 4 N. L. Andrews, 974-1,001 feet, 15 bbls. T. L. Looney and others No. 1 Wilson McCrory, 1,456 feet, dry. J. T. Miller No. 1 J. M. Blooworth, 1,293 feet, dry. Texas Co. No. 1 J. H. Turbeville K, 1,607 feet, dry.

Jack County

Cato Oil Co. No. 3 Bryson, 2,950-3,083 feet, 350 bbls. B. Cockburn No. 1 J. M. Cox, 2,975-3,100 feet, 500 bbls. Hill & Hill No. 3 Clayton B, 2,977-3,013 feet, 345 bbls. Martex Oil Co. No. 11 Chambers, 2,921-2,990 feet, 240 bbls. Moncrief & Showers No. 3 S. M. Jones, 3,040-3,210 feet, 347 bbls. E. B. Sewell No. 6 D. R. Sewell, 700 feet, dry.

Wichita County

Coleman & Coppock No. 10 G. R. Hoge, 820-30 feet, 25 bbls. G. W. Cooper No. 23 W. T. Waggoner C, 1,632-40 feet, 265 bbls. King Oil Co. No. 6 M. M. Stone A, 1,643 feet, dry. Panhandle Refining Co. No. 14 Ramming, 1,648-1,755 feet, 15 bbls. Perkins & Cullum No. 1 T. L. Burnett and others A, 1,835 feet, dry. George Proctor No. 1 Foster A, 1,541-49 feet, 50 bbls.

Wilbarger County

King Oil Co. No. 2 Waggoner T, 2,335 feet, dry.

Young County

Combs & Glade No. 1 E. Hall, 721-33 feet, 5 bbls. D. C. Nelson and J. J. Mathis No. 1 W. W. Cape, 904 feet, dry. Rathke Oil Co. No. 1 Wadley, abandoned location. Shaw Oil Corp. No. 1 Jarnigan, 3,995-4,032 feet, 6 bbls. T. G. Shaw No. 1 J. L. McLaren, 3,020 feet, dry. J. G. Steele No. 1 J. W. Davis, abandoned location. Stuckey Oil & Gas Co. No. 1 J. W. Jones, 554 feet, dry. R. H. Vise No. 1 R. W. Easterling, 3,800-37 feet, 1,170 bbls.; No. 2 Norton Properties, 3,788-3,828 feet, 400 bbls. Fred F. Yockstock and others No. 1 Stewart, 850 feet, dry.

PANHANDLE COMPLETIONS

Carson County

Empire Oil & Refining Co. No. 6 Deahl, 2,688-3,272 feet, 8,600,000 feet of gas; No. 12-D Magnolia, 3,209 feet, plugged back to 3,075 feet, shot, 73 bbls. on pump.

Magnolia Petroleum Co. No. 23 fee, 2,966-3,088 feet, shot, 403 bbls. on pump.

Gray County

Bradshaw Oil & Gas Co. No. 3 Pope, 3,100-3,310 feet, shot, 470 bbls. on pump. Gulf Oil Corp. No. 5-B Catlin 3,005-3,129 feet, shot, 373 bbls. on pump. Humble Oil & Refining Co. No. 7 Merten, 3,170-3,269 feet, shot, 335 bbls. on pump. Magnolia Petroleum Co. No. 7 Sailor, 3,198-3,255 feet, shot, 837 bbls. on pump. Mordyan Oil & Gas Co. No. 6 Davis, 2,807-54 feet, plugged back to 2,825 feet, shot, 145 bbls. on pump. Sinclair Prairie Oil Co. No. 5 Smith, 3,200-80 feet, shot, 347 bbls. on pump.

Hutchinson County

Alma Oil Co. No. 1 Thompson, 3,022-3,103 feet, shot, 485 bbls. on pump. Bonner, trustee, No. 3 Moore, 3,090-3,151 feet, shot, 406 bbls. on pump. Danube Oil Corp. No. 2 Starnes, 3,125-84 feet, shot, 1,017 bbls. on pump. Phillips Petroleum Co. No. 1 Kay, 3,212-55 feet, shot, 431 bbls. on pump. The Texas Co. No. 9 Pond, 2,871-2,986 feet, shot, 504 bbls. on pump. Turman and Plains Oil Co. No. 12-A Whittenburg, 2,732-2,800 feet, shot, 806 bbls. on pump; No. 6-B Whittenburg, 2,685-2,742 feet, shot, 801 bbls. on pump.

Moore County

Continental Oil Co. No. 1 Burnett, 2,936-3,260 feet, shot, 46,300,000 feet gas. Skelly Oil Co. No. 12 Armstrong, 2,938-3,115 feet, plugged back to 3,070 feet, 3,500,000 feet of gas.

Wheeler County

Allender and others No. 1 Harvey, 2,160-2,207 feet, 39,000,000 feet of gas.

CENTRAL TEXAS COMPLETIONS

Brown County

Charter Oil & Gas Co. No. 1 T. B. Slick, total depth 1,378 feet, dry and abandoned. Jamison, Pollard & Foster No. 3 Arledge, sand 1,283-1,304 feet, shot 20 quarts, 25 bbls. Donald Kenyon No. 1 Stone, total depth 1,224 feet, dry and abandoned.

Callahan County

Johnson & Holmes No. 1 Hickman, total depth 477 feet, dry and abandoned. Murray & O'Neal No. 1 Estes, total depth 2,251 feet, dry and abandoned.

Eastland County

J. T. Anderson No. 1 Crist, 3,038-77 feet, shot with 100 quarts, 8 bbls. per day.

Haskell County

Danciger Oil & Refining Co. No. 1 Pardue, total depth 2,368 feet, dry and abandoned. Forest Development Corp. No. 1 Pardue, total depth 2,250 feet, dry and abandoned.

Jack County

Cato Oil Corp. No. 3 Bryson, 2,950-3,064 feet, total depth 3,083 feet, 350 bbls. Hill & Hill No. 3 Clayton B. 2,977-3,010 feet, 344 bbls. Mar-Tex Oil Co. No. 11 Chambers, 2,921-32 feet, total depth 2,990 feet, 240 bbls. Moncrief & Showers No. 5 Jones, 3,196-3,205 feet, 347 bbls. Stewart & Egan No. 1 Bryson, total depth 3,105 feet, dry and abandoned.

Jones County

Condor Petroleum Co. No. 2 Holt A, 1,913-17 feet, 116 bbls.; No. 1 Logsdon, 1,911-17 feet, 116 bbls. Danciger Oil & Refining Co. No. 5 Guitar, 1,980-2,006 feet, 950 bbls. R. B. Farris No. 2 Guitar B, 1,972-2,002 feet, 650 bbls. G. M. Gillespie No. 1 McKeever, total depth 2,573 feet, dry and abandoned. T. D. Humphrey No. 3 Guitar, 1,986-2,006 feet, 500 bbls. Moutray Oil Co. and others No. 1 Nugent, total depth 2,643 feet, dry and abandoned. Oil States Exploration Co. and others No. 1, 1,741-53 feet, 190 bbls.

Ungren & Frazier No. 11 Dorsey, 2,198-2,217 feet, treated with 2,000 gallons acid, 562 bbls.; No. 6 Dorsey D, 2,207-22 feet, treated with 2,000 gallons acid, 580 bbls. Dan E. Whatley No. 1 Brazelton, total depth 2,511 feet, dry and abandoned.

Shackelford County

George Klop No. 2 Ghio, 603 feet, dry and abandoned. Charter Oil Co. No. 2 Baker, 1,621 feet, dry and abandoned. Roeser & Pendleton No. 34 Dawson & Conway, 1,595-1,614 feet, shot with 40 quarts, 165 bbls.; No. 35 Dawson & Conway, 1,606-13 feet, shot with 30 quarts, 120 bbls. Ungren & Frazier No. 1 Dyer, total depth 1,325 feet, dry and abandoned.

Photo by Fairchild Aerial Surveys

THOUSANDS of square miles of territory which may some day be productive of oil—in fact, *must become productive* if the nation is to continue to supply its own future needs—are now as blank to oil men as the vacant spot on this picture. The complicated structures of these areas have defied geologists and geophysicists alike for many years.

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North Louisiana, Arkansas

OPEN POOL IN DE SOTO WITH 2,500-BBL. WOODBINE WELL

By MITCHELL TUCKER

SHREVEPORT, La., July 5.—Arkansas' rapid comeback into flush oil production again headed important developments for the closing week in the Arkansas-Louisiana-Texas area. Ten new wells have been started around the 2-mile extension of the Rodessa field into Miller County, Arkansas, and Lion Oil Refining Co. completed the biggest producer to date at Schuler, indicating itself good for 8,200 bbls. daily on open flow hourly potential tests.

RODESSA—ARKANSAS

On initial flowing test, Arkansas' first well in the Rodessa tri-state field, McClanahan and others No. 1 W. L. Capps, NW SE SW section 11-20-28, made 451 bbls. in nine hours and was shut in for tankage. Production was through a cracked 3-inch gate valve.

Ten wells in the Arkansas extension area were immediately staked, eight of which are now rigging up and the other two drilling. The Arkansas Board of Conservation has issued a 10-acre spacing order, with the privilege of exceptions after a public hearing. Gulf Refining Co. is extending their Rodessa pipe line into the Arkansas portion of the field to take production from No. 1 Capps.

The Arkansas Board of Conservation has called a special hearing in Texarkana on July 7 of all operators interested in the Rodessa extension. Representatives from both Louisiana and Texas commissions will also attend. Drilling regulations, possible proration, and other matters will be discussed.

RODESSA—LOUISIANA

Blackwell Oil & Gas Co. No. 3 Neugent, deep test in the northeast end of the field, topped the Travis Peak at 6,651 feet, and continues coring below 6,810 feet for possible saturated sands in the upper part of this Trinity member.

Standard Oil Co. of Louisiana No. 2 L. J. Kaempfer, NE NW SW section 9-23-16, was a completion in the North Rodessa area, flowing at the rate of 103 bbls. daily, total depth 5,988 feet.

United Gas Public Service Co. No. 7 fee 574, NW section 16-23-16, flowed 14 bbls. hourly through three-eighths inch tubing choke, total depth 5,940 feet.

RODESSA—TEXAS

Cass County

Five routine completions were made in the Cass County, Texas, portion of Rodessa last week, flowing an aggregate initial production of 1,733 bbls. daily. Gulf Refining Co., Magnolia, R. W. Norton, Texas Co. and Gulf Production Co. each recorded one completion.

Marion County

Arkansas-Louisiana Gas Co. No. 1 C. C. Braden, in the T. Hanson Survey 3 miles east of Jefferson, Tex., and 9 miles southwest from outpost Rodessa production, is preparing to test oil and gas showings logged at the base of the Gloyd lime at 5,970 feet, after drilling to a total depth of 6,872 feet in the Travis Peak and plugging back. Saturated Henderson sand was reported from 5,882 to 5,891 feet, and porous and saturated Gloyd throughout the section 5,900 to 5,960 feet. No Young oil sand was logged. Casing has been set at 5,890 feet, leaving all of the Gloyd section exposed, and testing will begin soon.

On new potential test the Jefferson discovery of Holcomb and Thomason and others in the R. Bennington Survey, just north of the town of Jefferson, made 103 bbls. in 24 hours through one-third inch choke, with gas-oil ratio of 2,980 to 1.

The second well to reach the pay in the Lodi area about midway in the 12-mile extension of the Rodessa field southwest into Marion County, the Hunter Co. No. 2 Fonda, A. D. S. Coy Survey, cored the saturated Henderson oil sand from 6,076 to 6,095 feet, and at a total depth of 6,095 feet is running casing preparatory to testing. Four other wells in this immediate vicinity are approaching the Henderson objective rapidly.

Estimated Daily Production

Estimated daily gross production all companies week ending July 2, 1937:

NORTH LOUISIANA

Bellevue	765
Caddo, light	4,000
Caddo, heavy	2,570
Converse	805
Cotton Valley, heavy	250
Cotton Valley, light	*3,070
De Soto and Red River	1,610
Elm Grove	335
Haynesville	3,110
Holly	130
Homer	2,520
Lisbon	14,210
Pleasant Hill	135
Rodessa	49,895
Sarepta-Carterville	365
Sligo	290
Sugar Creek	615
Urania	2,870
Zwolle	750
Total	88,295

SOUTH ARKANSAS

Champagnolle	1,480
El Dorado	2,025
Lisbon	280
Miller County	515
Nevada	770
Schuler	1,645
Smackover, light	2,160
Smackover, heavy	17,015
Stephens	575
Troy	650
Urbana	1,220
Total	28,335

Texas side of Rodessa field 38,770 bbls. daily.
*2,615 bbls. is distillate.

De Soto Parish

Pullman Oil Co. No. 1-A Ramsey, section 36-11-11, southern De Soto Parish wildcat, opened a new field Sunday, flowing 48 bbls. of 28-gravity oil in 30 minutes from Woodbine sand, total depth 2,961 feet, before it was shut in for tankage. Potential is estimated at 2,500 bbls. The company is building tanks. Majority of the nearby acreage is held by Shreveport independent operators. Pullman Oil Co. is owned by M. J. Grogan and associates. A map of this field was published last week in The Oil and Gas Journal.

Superior Oil Co. of Oklahoma No. 1 Joyner, SE NW SW section 28-11-12, wildcat test about 4 miles northeast of Benson, has reached contract depth of 5,012 feet, and has been shut down.

R. M. Sundby No. 1 A. P. Garland, section 7-14-14, wildcat test about 5 miles north of Holly, has been plugged and abandoned as dry, total depth 5,548 feet.

Bossier Parish

Premier Investment Co. No. 42 Wyche, section 14-19-11, Bellevue field, pumped 20 bbls. daily, total depth 370 feet.

United Gas Public Service Co. No. 1-A Jeter Unit, SW section 24-17-12, in the Sligo oil and gas field, failed to log oil saturation in the Pettit lime formation and was completed as a 21,000,000-foot gas well, 2,095 pounds rock pressure, total depth 5,148 feet.

Caddo Parish

In the Caspiana area, Prairie River Syndicate's deep test, No. 1 Hutchinson, SW NW section 15-15-12, topped the Lower Marine section of the Travis Peak at 7,865 feet, and drills ahead below 8,040 feet.

W. J. Hunter and others No. 1 Stoer, section 10-15-15, closely watched wildcat near Keithville, perforated the 7-inch casing opposite the Pettit lime from 5,990 to 6,012 feet and was found to be dry. Casing was next perforated opposite the Lower Glen Rose zone from 5,410 to 5,420 feet and 5,100 to 5,125 feet, and salt water only was evidenced. Drilling has been resumed below 6,190 feet.

Eight routine completions were recorded in the Caddo-Pine Island field last week, as follows:

W. D. Ambrose No. 1 Pender, NW NE SW section 11-20-15, flowed about 200 bbls. daily by heads, total depth 2,201 feet. No. 1-B Pender, SW NW SW of the same section, pumped 40 bbls. daily, total depth 2,215 feet.

T. B. Donnell No. 1 Stokeley, SW of section 5-20-16, pumped 12 bbls. daily, total depth 958 feet.

Hancock & Uhlman No. 1 Helpman, section 16-21-16, pumped 15 bbls. daily, total depth 1,009 feet.

Tom Pappas No. 2 Spell, SW section 28-21-15, flowed by heads about 100 bbls. daily, total depth 1,652 feet.

Stanolind Oil & Gas Co. No. 12 Slattery, NE NW section 27-21-15, pumped 28 bbls. daily after acidizing, total depth 1,667 feet.

Surf Oil Co. No. 2 Self, SE NE SE section 10-20-15, pumped 50 bbls. daily, total depth 2,204 feet.

Claiborne Parish—Lisbon

The first dry hole to be drilled in the Lisbon field was abandoned last week by T. L. James & Co. at No. 1 Baker, W half SE NE section 25-21-5, about three-quarters of a mile north of present production. Pettit lime was logged from 5,204 to 5,212 feet, and reported to be hard and dry. The hole was carried to a total depth of 5,343 feet in the top of the Travis Peak before temporarily plugging. Operators may move back into this hole later for further testing and possibly deeper drilling.

J. B. Bond No. 1 H. E. Patton, W half NW NW section 36-21-5, flowed 341 bbls. in eight hours on initial test after acidizing, total depth 5,280 feet.

Harry Hanbury No. 1 R. D. McDonald, W half NW NW section 31-21-4, flowed 750 bbls. in 24 hours through one-half inch tubing choke, total depth 5,270 feet.

McMillian and others No. 2 Roberta Vaughn, N half NW NE section 36-21-5, flowed 512 bbls. in 13 hours on initial test, total depth 5,284 feet.

J. C. Trippett No. 2 H. E. Patton, section 36-21-5, flowed 50 bbls. hourly through one-half inch tubing choke after acidizing with 5,000 gallons, total depth 5,307 feet.

Claiborne Parish—Sugar Creek

After deepening four of the former gas wells in the Sugar Creek to the new oil sand in the Upper Travis Peak, United Gas Public Service Co. and others have begun the drilling of the first new well to this horizon, No. 1 Brownfield, SW SW section 5-19-5, on the northern flank of the old gas field.

Lincoln Parish

Glassell & Glassell's closely watched wildcat in the Dubach area of Lincoln Parish, No. 1 Gray, SE of section 16-20-3w, has been plugged and abandoned at 5,620 feet after finding all possible horizons dry to that depth.

Sabine Parish

Producers Oil & Gas Co. No. 1 M. Gains, SW SE SE section 36-9-13, on the flank of the Converse oil field, has been abandoned as dry, total depth 2,100 feet.

Kirk-Green-Way's No. 1 Whitney, section 8-9-13, deep test on the northern flank of the Converse field, topped the Travis Peak last week at 6,525 feet, and

(Continued on Page 104)

CALIFORNIA OIL FIELD OPERATIONS FOR MAY, 1937

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abandoned Drillers	Abandoned Producers
Group 1:							
Belridge—North	2	7	2	4,974	47	...	...
Belridge—South	...	...	...	....	138	...	...
Coalinga	...	2	...	....	890	...	7
Edison	5	5	1	50	90	...	...
Elk Hills	2	1	...	....	154	...	...
Fruitvale	4	7	4	947	145	2	...
Greeley	1	4	1	3,330	2	...	...
Kern River	7	9	8	1,334	1,347	1	...
Kettleman Middle dome	...	...	...	....	3	...	...
Kettleman North dome	5	11	3	5,291	142	...	...
Lost Hills	1	1	...	....	245	...	1
McKittrick	1	1	2	145	184	...	...
Midway-Sunset	19	20	15	3,744	2,395	...	1
Mountain View	3	10	1	275	183	...	...
Mount Poso	6	9	3	1,246	249	...	...
Round Mountain	10	6	5	1,563	126	1	...
Ten Section	...	3	1	2,788	4	...	...
Wheeler Ridge	...	...	...	....	30	...	...
Group 2:							
Capitan	1	1	1	140	30	...	...
Elwood	...	...	...	....	81	...	...
Rincon	2	1	...	....	34	...	...
San Miguelito	...	3	1	268	12	...	...
Santa Barbara	...	1	...	....	45	...	1
Santa Maria	5	15	3	4,470	242	1	...
Summerland	...	...	...	....	19	...	...
Ventura Avenue	1	6	3	695	239	...	...
Ventura-Newhall	4	16	2	480	563	2	1
Watsonville	...	...	...	....	7	...	...
Group 3:							
Brea-Olinda	...	1	...	....	372	...	...
Coyote—East	2	5	...	....	78	...	...
Coyote—West	...	...	1	278	53	...	...
Dominguez	1	5	2	773	128	...	...
El Segundo	4	9	2	1,260	18	1	...
Huntington Beach	3	9	2	227	565	...	1
Inglewood	1	...	1	990	211	...	...
Lawndale	...	...	...	....	6	...	...
Long Beach	4	5	1	40	1,251	2	...
Los Angeles-Salt Lake	...	...	...	....	120	...	3
Montebello	...	4	1	57	204	...	...
Newport	...	1	...	....	...	...	...
Playa Del Rey	1	2	1	132	209	...	1
Potrero	...	...	...	....	11	...	...
Richfield	5	8	...	....	269	...	...
Rosecrans	2	5	...	....	78	...	...
Santa Fe Springs	...	2	...	....	641	...	...
Seal Beach	...	2	...	....	116	...	...
Torrance	3	3	1	125	535	...	...
Whittier	...	...	...	....	155	...	...
Wilmington	48	45	48	27,344	115	...	...
Miscellaneous drilling	11	53	...	....	....	14	...
Group 4—gas fields:							
Buena Vista Lake	...	...	...	....	5	...	...
Buttonwillow	...	...	...	....	....	...	...
Chowchilla	...	...	...	....	....	...	...
Delano	...	...	...	....	....	...	...
Dudley Ridge	...	...	...	....	....	...	...
Goleta	...	...	...	....	1	...	...
McDonald Island	...	...	1	gas	4	...	...
Rio Vista	1	1	2	gas	1	...	...
Semio-Tropic	...	...	...	....	....	...	...
Tracy	...	...	...	....	....	...	...
Total May	165	299	119	62,966	12,792	24	16
Total April	138	270	91	42,592	12,808	32	9
Increase (*decrease)	27	29	28	20,374	*16	*8	7

CRUDE PETROLEUM PRODUCTION

(Figures of Production and Stocks are in barrels of 42 gallons)

	Daily production	Daily average		
Group No. 1:	May	May, 1937	April, 1937	May, 1936
Belridge—North	469,460	15,144	14,869	8,641
Belridge—South	51,232	1,653	1,733	2,139
Coalinga	508,886	16,418	15,340	16,249
Edison	132,133	4,262	4,490	5,374
Elk Hills	344,604	11,116	10,719	9,512
Fruitvale	292,875	9,448	8,968	7,453
Greeley	26,685	861	494	.....
Kern River	492,858	15,899	15,357	13,707
Kettleman Middle dome	4,622	149	168	456
Kettleman North dome	2,512,131	81,036	78,603	78,103
Lost Hills	117,845	3,801	3,880	3,405
McKittrick	125,132	4,037	2,944	1,677
Midway-Sunset	2,329,030	75,130	72,406	58,192
Mountain View	597,748	19,282	21,059	28,004
Mount Poso	504,416	16,272	17,784	18,985
Round Mountain	355,578	11,470	12,146	10,567
Ten Section	77,774	2,509	2,410	.....
Wheeler Ridge	10,368	334	342	349
Group No. 2:				
Capitan	75,410	2,433	2,277	1,424
Elwood	283,985	9,161	9,433	12,886
Rincon	85,401	2,755	2,648	2,166
San Miguelito	97,691	3,151	2,804	1,455
Santa Barbara	23,057	743	711	1,599
Santa Maria	324,258	10,460	7,260	4,036
Summerland	1,140	37	34	36
Ventura Avenue	1,087,921	35,094	35,238	33,861
Ventura-Newhall	154,753	4,992	4,952	4,532
Watsonville	1,860	60	60	60
Group No. 3:				
Brea-Olinda	270,412	8,723	8,484	8,006
Coyote—East	128,388	4,141	3,408	2,288
Coyote—West	272,649	8,795	8,062	8,158
Dominguez	765,295	24,687	23,876	25,870
El Segundo	172,635	5,569	5,546	324
Huntington Beach	1,145,111	36,939	37,863	35,464
Inglewood	497,521	16,049	14,197	11,867
Lawndale	2,679	86	97	92
Long Beach	1,876,239	60,523	61,310	67,628
Los Angeles-Salt Lake	24,410	787	765	830
Montebello	290,678	9,377	9,726	8,088
Playa Del Rey	287,760	9,283	9,190	13,683
Potrero	9,749	314	340	318
Richfield	256,464	8,273	8,372	6,186
Rosecrans	91,493	2,951	2,891	2,005
Santa Fe Springs	1,380,449	44,531	44,012	43,813
Seal Beach	300,981	9,709	9,329	9,412
Torrance	243,320	7,849	7,997	6,802
Whittier	28,433	917	934	941
Wilmington	1,231,959	39,741	21,673	.....
Total May	20,365,478	656,951	627,201	576,643
Total April	18,816,050	627,201	.....	.....
Increase	1,549,428	29,750	.....	.....

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East and West Kentucky Fields Show Results

By SPECIAL CORRESPONDENTS

ASHLAND, Ky., July 5.—Two gas well completions and two completed oil wells were reported in eastern Kentucky this week with one of the oil wells showing a flow of 25 bbls. per day and one of the gas wells bettering the million-foot mark shortly after it was shot.

The Kentucky & West Virginia Gas Co. completed No. 549 on the T. J. Hagens land on Jones Fork in Knott County with a daily flow of 277,000 feet of gas per day. The well reached a total depth of 2,378 feet in shale.

The same firm reported the completion of No. 550, Charles and Francis Sturgill's land, on Jones Fork of Caney Creek in Knott County. The well reached the 2,133-foot mark in shale and two hours after the shot the reported flow was at the rate of 1,063,000 feet of gas per day.

In Lee County the Central States Oil Co. No. 1, on the Marion Shoemaker farm at Zoe, is showing a daily oil flow of 10 bbls. Garrison & McCan No. 2 on the Andrew Combs farm shows a flow of 25 bbls. per day. This is on Billie's Fork in the Big Sinking district.

Several other wells are nearing completion and summarized operations for this section of the state are as follows:

In Magoffin County, Bed Rock Petroleum Co. is at the 400-foot mark in No. 29 on E. R. Caudill land, Caudill Fork of Burton Creek.

In Knott County, Inland Gas Co. is in Maxon sand at 1,821 feet in No. 2 R. C. Kilgore, Right Fork of Troublesome Creek, and is moving rig to location for No. 1, Ritter Short farm on Wiley Fork of Troublesome Creek.

Kentucky & West Virginia No. 5221, on Isaac Slone farm, Caney Fork of Troublesome Creek, is down 2,002 feet, in Maxon sand.

In Wolfe County, Brown No. 1, on Booth heirs land on Devils Creek, is at a depth of 1,200 feet, ready to drill in.

Rush Cable is drilling No. 5 Lafayette Noe, Little Sinking, and drilling is continuing on the following operations: Henry Day No. 7 Popular Thicket, Bald Rock Hill; Floyd Fitch No. 1 Crabtree & Sales, Cane Branch; Witmer Oil Co. No. 2 C. J. Tipton, on Billie's Fork; Price Fraley and others No. 4 Andrew Combs, also on Billie's Fork.

In Powell County, B. & B. Oil Co. is down 400 feet in No. 6 Frank Rogers, Mountain Springs, South Fork district.

Drilling is still at a standstill in Lawrence and several other eastern Kentucky counties.

In Floyd County, Kentucky & West Virginia Gas Co. is in Maxon sand at 1,240 feet, in No. 551 Jennie Campbell, on Levisa Fork. The same firm has reached the 1,545-foot level in No. 552 Elizabeth Sellards, also on Levisa Fork. It is in lime shells formation. Rig is up for No. 5224 Burris Herald, on Cow Creek.

In Martin County, Kentucky & West Virginia Gas Co. is down 50 feet in No. 5223, C. W. Preece land, on Coldwater Fork.

WESTERN KENTUCKY

OWENSBORO, Ky., July 5.—Eight oil wells and five dry holes represented the harvest in the western Kentucky fields in the past week.

Hancock County

Easton district: Sands Petroleum Co. No. 22 W. F. Burk, 5 bbls., Jett sand; J. C. Ellis No. 17 Link Richards, Jett sand, pumped 50 bbls. in eight hours; Chester Oil Co. No. 6 J. W. Baughn, Jett sand, total depth 359 feet, 50 bbls. Pellville district: Frank Damron No. 3 Ollie Lyons, dry hole, total depth 608 feet.

Ohio County

Westerfield district: Leper Oil Co. No. 7 C. L. McKinley, 25 bbls., Jett sand, total depth 740 feet. Dundee district: Henry Scholl No. 4 J. C. Nabors, dry hole to top of Little lime, total depth 400 feet. Sunnydale district: DeHart and others No. 1 A. Smith, dry hole, total depth 675 feet. Taffy district: J. C. Ellis No. 16 J. T. Hoagland, 60 bbls., stray sand.

McLean and Ohio Counties

Hardin pool: A. Carpenter and others No. 1 Hardin heirs 112 A., dry hole, total depth 1,602 feet. J. C. Miller and others No. 9 Austin & Cullen, 50 bbls., Jett sand, 1,080-1,103 feet, shot with 60 quarts, total depth 1,103 feet. Clark & Snyder No. 2 Barnett heirs, 75 bbls., Jett sand, 991½-1,004 feet, shot with 60 quarts, total depth 1,004 feet. Ohio Oil Co. No. 1 Mrs. Fannie Foley, no Jett sand, top of Jones 1,200 feet, hole full of water; drilling deeper. W. E. Hupp and others No. 3 John A. Givens, no Jett sand, show of oil and hole full of water, drilling deeper at 1,225 feet.

Daviess County

Red Hill district: Hoosier Drilling Co. No. 1 Jim Yeiser, dry hole, total depth 1,600 feet.

McLean County

Cleopatra district: Hoosier Drilling Co. No. 1 J. T. Hayden, dry hole, 1,600 feet. Grindstone Hill district: Ohio Oil Co. No. 6 G. B. McManama, 125 bbls.

Breckenridge County

Vanzant district: Carpenter and others No. 2 Cal Bland, Jett sand dry 266-83 feet; drilling deeper at 300 feet.

Muhlenberg County

Rochester district: A. Corbett No. 1 Tell Robindon, Jett sand dry; drilling deeper at 825 feet.

Central West Fields

(Continued from Page 91)

W. V. Torner, in section 27, Newport Township, was abandoned as dry in the Peaker sand with only a show of oil, which the shot did not increase. The sand was at 590-609 feet, total depth 650 feet. Another dry hole was abandoned in Lot 1,072, Palmer Township, by Russell and others. It was No. 27 Joseph J. Lawrence farm. The hole was drilled through the First Cow Run sand at 635-40 feet, total depth 670 feet.

In Washington County, Best Run Oil & Gas Co. No. 2 Anthony Schwartz, in section 27, Liberty Township, was completed in the First Germantown sand at 849-977 feet. The well was shot with the tools lost in the hole, and shut in with a volume of 140,000 feet and a rock pressure of 285 pounds.

In Perry Township, Coshocton County, Hulse & Kuntz No. 2 John W. Mosholder, in section 6, which has been previously reported as a probable commercial oil well, made 85 bbls. of oil with a very small amount of gas the first 24 hours after it was shot.

In southern Ohio the majority of activity seems to be in Meigs and Athens counties. In section 3, Rutland Township, Meigs County, the Ohio Fuel Gas Co. No. 1 Ernest Harrison was completed as a commercial well with gas in the Salt sand at from 681-719 feet, and in the Maxburg sand at from 806-33 feet. The open flow of the well was 187,000 feet. A. T. Barton No. 1 Isaac Taylor in Rutland Township made 70,000 feet of gas naturally in the Maxburg 800-foot sand at from 640-60 feet. The well had a shut-in rock pressure of 245 pounds. The Meigs Developing Co. No. 2 Frank A. Ross, in section 31, Lebanon Township, of the same county, was a producer in the First Berea with an open flow after shot of 104,000 feet and a rock pressure of 620 pounds. In section 25 of the same township, Rou Holmes No. 1 Marj. C. Gandee was a dry hole in the First Berea at from 2,093-97 feet. The well was shot with only a show of gas, but was abandoned as a dry hole. The total depth was 2,100 feet.

In section 5, York Township, Athens County, the Chartiers Oil Co. No. 5 Eileen Stratton was completed through the Clinton sand which was encountered at from 3,492-3,516 feet, with a total depth of 3,537 feet. The well made 120,000 feet of gas and 8 bbls. of oil the first 24 hours after shot.

In Morgan County, section 16 of Penn Township, Charles Bowman completed No. 1 H. R. Greathouse as a commercial gas well in the Second Cow Run sand at from 740 to 742 feet, total depth. The well gauged 600,000 feet. In the same county the Hopewell Gas & Fuel Co. No. 5 Elizabeth Floyd in section 20, York Township, was abandoned with only a very small show of gas in the Clinton sand at from 4,080-4,126 feet with a total depth of 4,140 feet.

In Perry County, Wehrle Brothers No. 9 Worley Deaver, section 2, Monroe Township, was abandoned as dry in Berea sand at 1,159-83 feet, total depth 1,233 feet.

In Guernsey County, Hayes Ferguson and others No. 1 Luther Kinnison, in section 3, Jefferson Township, was completed in Berea sand at 1,070-1,127 feet. The well made 81,000 feet naturally and had a rock pressure of 482 pounds, total depth 1,134 feet. Roy Hammond and others No. 2 John Martin, section 25, Monroe Township, was dry in the First and Second Berea, First Berea at 1,216-67 feet, and the Second at 1,275-83 feet, total depth 1,288 feet. The well was abandoned. In Millwood Township, of the same county, M. J. Purdy No. 3 Joel D. Carter was a small commercial gas well in the Berea sand at from 1,708-18 feet, with a total depth of 1,720 feet. It was shot and shut in at 75,000 feet.

In Knox County, H. E. Perkins No. 2 C. V. Benbury, section 17, Jefferson Township, had a dry hole in the Clinton sand, with a total depth of 3,014 feet. Both the First and Second Clinton sands were dry. The well was plugged and abandoned.

East Texas Fields

(Continued from Page 96)

3,775-75½ feet, 30 bbls. in 24 hours on pump. Rudco Oil Co. No. 1 Nicholson, 3,665-67 feet, 12 bbls. per hour.

EAST CENTRAL TEXAS COMPLETIONS

Anderson County

Tide Water Associated No. 3-C Royall and Cone, 4,087 feet; estimated 50,000,000 feet of gas; No. 3 Z. Williams, 5,333-46 feet, 126 bbls. through eighth-inch choke.

Franklin County

Byrd-Frost, Inc., No. 9 Phillips, 4,164-4,242 feet, 402 bbls. on pump. Humble Oil & Refining Co. No. 5 Dawson, 4,210-4,323 feet, 311 bbls. Stroube and Stroube No. 1 F. Prince, 4,200-73 feet, 310 bbls. through quarter-inch choke.

Freestone County

O. L. Gregg and others No. 1 fee, dry and abandoned 4,315 feet, elevation 222 feet.

Henderson County

Goodnight and others No. 1 Ford and Nash, 4,099-4,123 feet, dry and abandoned.

Hopkins County

J. Carpenter Oil Co. No. 1 Gillis, dry and abandoned 4,490 feet, elevation 593 feet, northwest part of county. Jones and others No. 2-A Basham, 4,489-4,547 feet, 25 bbls. per hour.

Titus County

Adams and Lyle No. 8 Davis, 4,242-4,319 feet, 184 bbls. on pump; No. 1 Milligan, 4,165-4,310 feet, 276 bbls. on pump. Byrd-Frost, Inc., No. 5 Hargraves, 4,172-4,243 feet, 331 bbls. on pump. Hinton and others No. 7 Wilson, 4,230-4,302 feet, 600 bbls. on pump. Humble Oil & Refining Co. No. 8 Blackburn, 4,214-94 feet, 323 bbls. on pump; No. 41 King, 4,180-4,309 feet, 186 bbls. in 19 hours. Magnolia Petroleum Co. No. 3 Batson, 4,207-4,315 feet, 254 bbls.; No. 9 Mainard, 4,257-4,300 feet, 172 bbls. on pump. Y. Rogers No. 1 Betcher, dry and abandoned 532 feet.

Van Zandt County

Humble Oil & Refining Co. No. 10 Carroll, 2,759-2,938 feet, 64 bbls. in three hours through half-inch choke.

Texas and Louisiana Gulf

By

F. L. SINGLETON

HARRIS COUNTY AND ACADIA PARISH TESTS SHOWING OIL

HOUSTON, Tex., July 5.—Two new fields for the Texas and Louisiana Gulf Coast were apparently uncovered by wildcats drilled by Humble Oil & Refining Co. One of these is located in the Friendswood area of southern Harris County, Texas, which has set off an extensive leasing and royalty play, while the other is located on the North Crowley Prospect in Acadia Parish, Louisiana, which has shown several hundred feet of pipe line oil.

Approximately 3 miles northeast of the prolific Hastings field and located in the Perry and Austin Survey, Harris County, Humble Oil & Refining Co. No. 1 Settegast is looked upon as the forerunner of a new field as it cores oil sand below 5,990 feet in order to establish the water level for the thick sand section that was topped at 5,811 feet.

The first 10 feet of sand cored at 5,811-21 feet showed 5.5 per cent saturation by volume and the last 10 feet from 5,898-5,908 feet was not cored, but was logged as oil sand. The Discorbis was topped at 5,116 feet, the Heterostegina at 5,450 feet, and the well encountered the oil showings in the Marginulina horizon, the same horizon that produces at Hastings to the southwest.

This area has been looked upon as favorable for many years and no less than six tests have been drilled. The well is on a block of 3,000 acres controlled by Humble Oil & Refining Co. Leasing and royalty buying has been brisk with top prices ranging from $400 to $800. Some are of the opinion that this area will eventually be linked with the Hastings field due to the characteristics of the sand body which is practically on the same strike with the highest well in the field, while others are playing it as a separate field, and are of the opinion that production is separated by a faulted condition.

Although the sand body in several wells at Hastings has been encountered as high as 5,800 feet, the most northeasterly producers are flowing from sand bottomed below 6,000 feet, which indicates that the sand body is pinching out and cannot be expected to be extended much further.

Louisiana's New Prospect

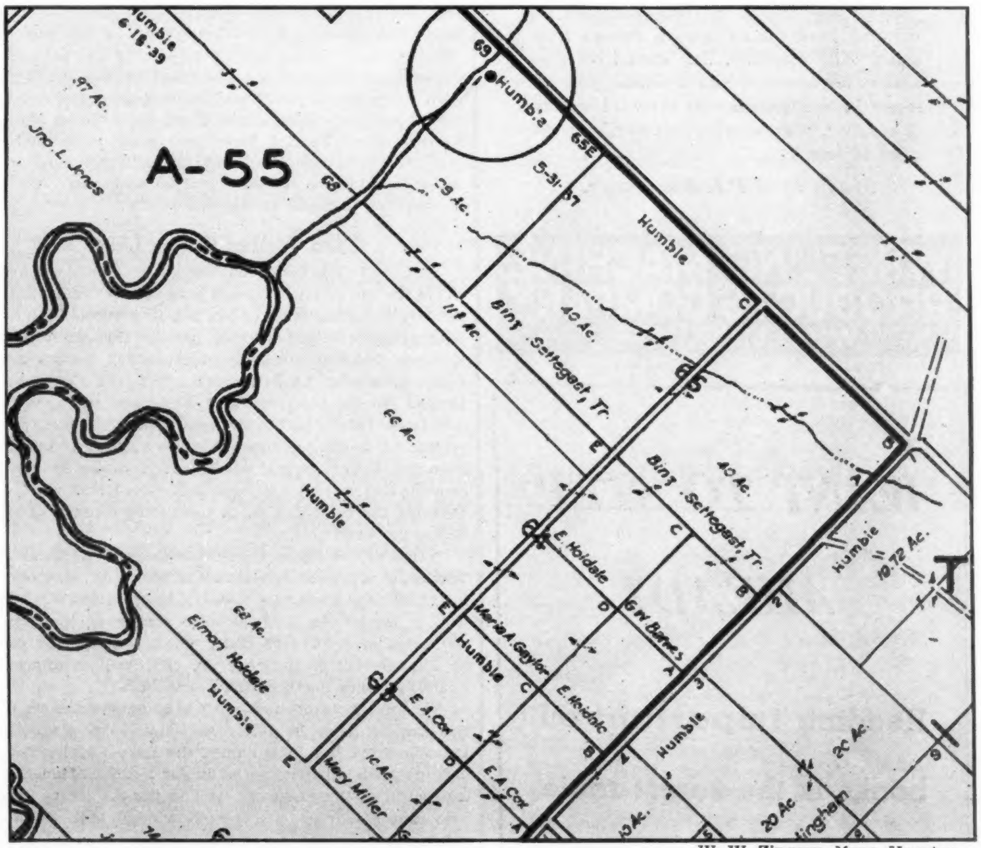
Along the Louisiana Coast and located on the North Crowley Prospect, Acadia Parish, the same company is believed to have opened another new field as a result of a drill-stem test at No. 1 Federal Land Bank, in section 34-8s-1e. Sand showing oil was encountered at 8,095-98 feet, and on a 11-minute drill-stem test at 8,086-8,106 feet, through quarter-inch choke, top and bottom, it tested 125 pounds working pressure and recovered 12 stands of pipe line oil and two stands of mud, cut with oil. Coring continues and unless a deeper sand is found, casing will be run and a production test made. The showing was found in a sidetracked hole which was plugged back from a depth of 8,037 feet, where the operators were unable to recover 20 feet of pipe. Sand showing oil was topped in the original hole at 7,929 feet, but no successful test was ever made. The well is on a geophysical prospect of several thousand acres.

Jefferson Davis Parish

In Jefferson Davis Parish, considerable interest is centered on the wildcat test of Louisiana Crusader Oil Co. No. 1 Langley, a probable pool opener located on the Pine Island Prospect in section 36-7s-5w. Bottomed at 9,045 feet with 7-inch casing cemented at 9,026 feet, perforations have been made in the casing with 10 holes at 8,957-65 feet and the well is being tested. The well has shown considerable gas in this particular section and it is probable that a test will be made from 7,358-67 feet, where a Schlumberger Survey showed 6 ohms resistivity and 120 millivolts porosity. The well is located on a large block in which several major companies hold considerable protection acreage.

Cameron Parish

Humble Oil & Refining Co. has made location for another interesting wildcat. It is on the Premo or Little Chenier Prospect in the southwestern part of Cameron Parish, and it is reported the test will be drilled as a joint operation with Pure Oil Co., and known as No. 1 Miami Corp., 1,980 feet north and 660 feet west of the SE cor. of section 8-14s-5w. The block is composed of about 6,300 acres, with Pure Oil Co. and Stanolind Oil & Gas Co. having a large portion of protection acreage.



W. W. Zingery, Maps, Houston

Interest along the Texas Coast is centered on the Friendswood area, 3½ miles northeast of the Hastings field, Brazoria County, where Humble Oil & Refining Co. No. 1 Settegast has cored a thick section of oil sand in the Marginulina sand that was topped at 5,811 feet

New 10,000-Foot Well

Another 10,000-foot producer was being completed at the Lafitte field in Jefferson Parish which will extend the field several hundred feet. Texas Co. No. 7 Rigolet, in section 29-17s-24e, is bottomed in sand showing oil at 10,404 feet and is being completed through perforations at 10,210-40 feet.

Along the lower Texas Gulf Coast and located in the old Refugio field, a revival of drilling for deeper sands is expected to result due to the completion of Houston Oil Co. No. 32 Rooke, which flowed 249 bbls. of 38-gravity oil per day through a quarter-inch choke with tubing pressure 375 pounds and casing pressure 1,275 pounds. Production is from a deeper sand in the Frio horizon at a screen setting at 6,183-6,202 feet, total depth. The rig has been moved 1,026 feet southwest of No. 32 and it is drilling below 3,400 feet. The well is located on the west side of the field in the Thomas Mullen Survey. In the Refugio town tract, and located on the east side of the field, United Production Co. No. 12 J. J. O'Brien, the deepest test ever drilled in the field, was perforated at 8,103-28 feet, tested salt water and the hole has been plugged back to approximately 7,800 feet, where another test is scheduled to be made.

In the Palacios field, Matagorda County, Glenn H. McCarthy has abandoned No. 2 Foley due to mechanical trouble and is moving in material for three more tests. No. 2 Foley was quit below 8,000 feet after the operators were unable to straighten the hole. Material is being moved in for No. 1 Palacios State Bank, No. 1 Rohlf, 1,400 feet southwest of the discovery well, and No. 3 Gregory-Foley, all being located in the Lewis Goodwin Survey. It is reported that Atlantic Refining Co. has let contract for a well, but no location has been announced.

A twin-well drilling program for the Hastings field, Brazoria County, which was started by the completion of Showers & Moncrief's 5,800-foot producer in the northwest part of the field, has been followed by Stanolind Oil & Gas Co., which has made application to drill five wells, one each on the J. M. Legare, Condon,

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THE OIL AND GAS JOURNAL

C. B. Brown, Berry Miller and Floyd Brown tracts. While there is difference of opinion as to whether this is a separate sand, several operators have been granted permits, and as a result over 100 additional wells are expected to be drilled.

The Bourg Pool

Fohs Oil Co. No. 1 State Long Lake, completed last week as the discovery well of a new field in Lafourche Parish was recompleted after it sanded up and on a 24-hour gauge through a 11/64-inch choke it flowed 425 bbls. of 38.3-gravity oil per day with tubing pressure 1,500 pounds and casing pressure 910 pounds. The new field has been named Bourg, and a canal is being dredged for No. 2 State, located 1,320 feet northwest of the discovery well, and in section 65-17s-19e. The sand is of Miocene age, producing through perforations at 9,365-73 feet.

Three Interesting Wildcats

Location for three interesting wildcats has been made in Brazoria County by Humble Oil & Refining Co., Ohio Oil Co. and the Texas Gulf Production Co.

Humble Oil & Refining Co. is moving in material for No. 1 W. D. Munson on a geophysical prospect of several thousand acres, 4½ miles southeast of East Columbia in the Samuel Carter Survey, while southwest of Alvin and centering around the Francis Moore Survey, Ohio Oil Co. is moving in material for No. 1 Kempner in the H.&T.B. Survey No. 33. On the same prospect, and located in section 40, H.T.&B. Survey, Texas Gulf Production Co. is building derrick for No. 1 W. D. Adams.

In the same county, and located in the Old Ocean field, Harrison & Abercrombie have set a new depth record for the Texas Gulf Coast by drilling No. 4 Bernard River Land & Development Co. below 10,507 feet. The formation is reported to be broken sand and shale carrying an oil odor and a production test is expected to be made in the near future.

Good Well at Cotton Lake

Salt Dome Oil Corp. marked up another good producer for the south extension area of the Cotton Lake field by the completion of No. 2-A Lawrence. On a 24-hour gauge it flowed 527 bbls. per day through a quarter-inch choke with tubing pressure 575 pounds and casing pressure 1,050 pounds. Gulf Oil Corp. has farmed out its 140-acre A. B. Lawrence tract to the Salt Dome Oil Corp., located several hundred feet from production in the Benjamin Winfree Survey, which has been drilled to 1,169 feet where surface casing has been cemented. Location has been made by Humble Oil & Refining Co. for No. 1 A. B. Lawrence, a north offset to No. 1-D Lawrence.

North of the Segno field, Polk County, Williams & Thompson are clearing location for No. 1 W. T. Carter in the Henry Augustine Survey, Abstract No. 3. The well is located in the southeast corner of the west 200 acres of a 589-acre tract, which was farmed out by Humble Oil & Refining Co. The well is approximately 7 miles north of the Segno field.

The new field opened two weeks ago southwest of the Amelia field, in Jefferson County, by Magnolia Petroleum Co. has been named the Lake Charles field and material is being moved in for No. 2 Phelan, 933 feet south of the discovery well in the S. Stivers Survey. The discovery has been flowing 9 bbls. of distillate per hour and a potential test was scheduled to be made.

Louisiana-Arkansas Fields

(Continued from Page 100)

continues to deepen for exploratory purposes, after finding all beds of the Lower Glen Rose nonproductive.

Ray Drilling Co. No. 4 Burkett, SE NW SW section 10-9-13, was a routine completion at Converse, pumping 8 bbls. of oil and 50 bbls. of salt water, total depth 2,001 feet.

Webster Parish

Bringing the total number of deep gas-distillate producers in the Cotton Valley field to 10, Ohio Oil Co. completed No. 2 R. M. Coyle, SE section 22-21-10, flowing 375 bbls. of high gravity distillate per day with about 4,000,000 feet of gas, tubing pressure 3,100 pounds, casing pressure 3,200 feet, from the Bodcaw sand section in the Lower Marine, total depth 8,503 feet.

Two seismograph crews are rechecking the Sibley area to the south, and along the Bienville-Webster Parish line, with the thought that possibly this gas-distillate field may hold attractive oil possibilities on that flank. At the present time all four producers in the field are shut down for want of a market outlet.

MISSISSIPPI

Lamar County

Sun Oil Co. No. 3 Talley, section 33-4n-15w, fourth test in an attempt to define the recently discovered salt dome, has missed the big salt, and is drilling at about 4,040 feet in what is thought to be the Wilcox formation.

FLORIDA

William G. Blanchard and associates are assembling a 250,000-acre block at Cape Sable, extreme lower Florida, for geophysical exploration and a possible deep test.

In the Everglades area of Florida, the Gulf is working two gravimeter outfits under supervision of Clem S. Clarke, on their 1,000,000-acre block.

William G. Blanchard and associates are preparing to make location for their No. 1 Lucy Cotton Thomas in Suwanee County, North Florida, where an 8,000-foot test will be drilled. This area has been covered by magnetometer outfits recently.

ARKANSAS

Ashley County

Phillips Petroleum Co. has begun the drilling of No. 1 Godfrey, S half SW NW section 18-17-9, which will be the first deep test in Ashley County. Location is about 8 miles from Crossett and 3 miles from the Saline River. Proposed depth is 6,000 feet, or to the Lower Marine.

Lafayette County

Nivia Oil Corp. No. 1 DeLoy, wildcat test in the SW SE SE section 19-15s-24w, found all formations dry to a total depth of 4,503 feet, and has been abandoned.

Miller County

E. H. Moore, Inc. is preparing to make another attempt for successful drill stem test of his No. 2 Dale, section 24-15-26, deep test northeast of the Garland City field. Total depth is 7,310 feet, above which some oil showings were reported.

Ouachita County

H. H. Taylor No. 1 Joe McCree, NW SW NW section 21-13-19, has been abandoned as dry, total depth 3,004 feet.

Nevada County

W. S. King of Texarkana has abandoned his No. 1 Winn, section 6-13-22, after topping the Travis Peak at 2,381 feet, and drilling to a depth of 2,610 feet.

Walter Lowd No. 1 T. S. Grayson, SW SW SE sec-

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Dan O'Shea, vice president of Wheatley Bros. Co., becomes producer with the drilling of the City of Tulsa No. 1. The test produced a million feet of gas daily at 1,284 feet. It is being drilled to the Burgess sand

tion 12-14-20, on the flank of the Troy field, has been abandoned as dry, total depth 2,409 feet.

Union County

Lion Oil & Refining Co. made the fourth completion in the Schuler field last week in No. 1-B Morgan, section 18-18-17, by selectively completing at point of most attractive oil saturation through perforations from 5,731 to 5,738 feet. The casing had previously been perforated from 5,797 to 5,827 feet but showed salt water, so a cement retainer was set above this point for testing higher in the hole.

Through open tubing on one-hour test this well gauged about 300 bbls., or at the rate of 8,200 bbls. daily. Production has now been pinched in, and for the last 22 hours produced 492 bbls. through three-eighths inch tubing choke, tubing pressure 1,275 pounds, casing pressure 1,400 pounds.

Each of the four producers at Schuler are now making about 500 bbls. daily through efficient tubing chokes to effect the most desirable gas-oil ratio.

Kansas Fields

(Continued from Page 98)

E half E half SE section 28-25-14, rig; Decker Brothers and Yearout No. 1 Bonner, C E half NW SW section 34-25-14, wildcat, location.

A. M. Landon No. 7 Texas-Johnson, NW SE NE section 22-24-12, Greenwood County, was a rig.

In Reno County, National Petroleum Co. No. 8 Tucker, SE SE NW section 19-24-4w, was drilling below 850 feet.

Stelbar Oil Corp. No. 3 Neal, SE SW SE section 29-31-1w, Sumner County, was a location.

Two new tests in Cowley County were reported. Lewis Production Co. No. 1 Feaster, SE NW SW section 36-32-5, wildcat, was a location, and Carter Oil Co. No. 1 Shields, SW SW SE section 19-32-6, was a location.

Sinclair Prairie Oil Co. No. 25 Moore, section 3-34-11, new Chautauqua County test, was drilling ahead.

Two far western tests were reported. In Grant County, Kuhn Brothers No. 1 Alderman, C SW section 18-29-35w, wildcat, was a rig. In Stevens County, Panhandle Eastern Pipe Line Co. No. 1-8 Youngren, C S half S half SW section 8-32-38w, was a location.

Louisiana State Mineral Board

SHREVEPORT, La. — Gov. Richard W. Leche has appointed the following Louisiana men to a nonpartisan state mineral board: Robert S. Maestri, mayor of New Orleans and former state conservation commissioner; C. C. Sheppard, Clarks, La., lumberman; Henry V. Howe, head of the geological department of Louisiana State University, and Charles G. Lasky, Shreveport oil man. The governor is ex officio chairman.

The act of the legislature creating this board vests it with "full authority to lease any lands belonging to the state for the development and production of oil, gas, coal, salt, sulfur, lignite and other minerals." The board will have authority to receive applications for leases, accept or reject them, or advertise of its own accord for leases.

Carbon Laboratory

Formal opening of a new laboratory for research in colloidal carbon in the early fall has been announced by William B. Wiegand, director of carbon research for Columbia Carbon Co. Mr. Wiegand is en route to the meeting in Paris of the Congress International de Caoutchoue, organization of rubber technologists, where he will describe newly discovered properties of colloidal carbon affecting its use in rubber, paints, lacquers and printing inks.

The new research laboratory will be devoted solely to the study of colloidal carbon, its manufacture and its applications, Mr. Wiegand stated. Its equipment will include an operating carbon production unit, thus constituting it the first laboratory equipped to study the whole subject of colloidal carbon.

Purchase by Forest

SAN ANTONIO, Tex.—Walton & Kistler have sold to Forest Development Corp of Bradford, Pa., for a price reported to be $250,000 in cash and oil, their oil production and acreage in the Zoboroski field, southeast of Seguin, Guadalupe County. Five Austin chalk producing wells on Kroeger & Hoffman leases and 560 acres are included.

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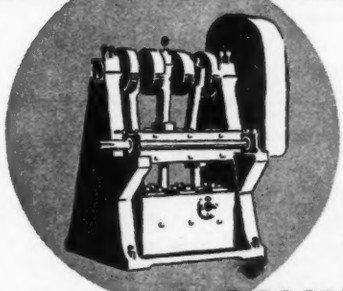

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, July 3. — In the Turner Valley field, acidizing operations are being steadily extended, with substantial increases in potential production. Royalite Oil Co. No. 4 Sterling Pacific, LSD 4, section 33-18-2w5, bottoming in the lime at 7,184 feet, with the largest natural production of crude in the field, was treated with 5,200 gallons of acid. It responded with production at the rate of over 4,000 bbls. a day, quickly dropping to around 2,500 bbls. On a 72-hour production test it made 5,956 bbls., or 1,985 bbls. a day. It was brought in on March 21 and before acidization had a settled production of around 1,000 bbls. Up to June 23 it had produced over 93,000 bbls., more than repaying the original drilling cost, estimated at $145,000.

Turner Valley Royalties No. 1, LSD 16, section 28-18-2w5, after producing for a year and settling from 900 to 585 bbls. a day natural, was treated with 5,000 gallons of acid. It developed a flush production rating 4,200 bbls., dropping to 88 bbls. an hour. The gravity of the crude increased from 46.3 to 47.7. The gas flow is 5,250,000 feet a day. A settled crude production of 1,500 bbls. is expected. Of the wells previously treated, Westside Royalties No. 1, LSD 5, section 21-18-2w5, increased from 225 to 400 bbls. and Royalite No. 3 Sterling Pacific, LSD 13, section 33-18-2w5, from 85 to 270 bbls.

Foundation Petroleums No. 1, LSD 3, section 21-18-2w5, producing around 230 bbls. a day, is being acidized. It will be reacidized later and casing perforated above the lime to take production from the Dalhousie sand. B. & R. Co. No. 1, LSD 12, section 28-18-2w5, with settled natural production around 600 bbls. a day, and Century Royalties No. 1, LSD 14, same section, making about 100 bbls. a day, are also being treated.

In the West Central area, Advance Oil Co. No. 5-A, LSD 16, section 19-19-2w5, is preparing to acidize. It is located just southeast of the abandoned Dalhousie Oil Co. No. 8, and approximately 5 miles north of the present crude zone. Finished as a naphtha well in 1930, about two years ago production changed to a very light crude, due to encroachment of crude up the west flank. It is making about 40 bbls. a day.

More extensive acidizing is held up by inability to secure acid. Approximately 35,000 gallons have been used already, and Canadian plants are not equipped to produce acid in the quantities required. The cost per well for treatment varies from $2,000 to $6,000.

Monarch Gets Lime

West of the proven crude zone, Monarch Royalties No. 1, LSD 9, section 20-18-2w5, got the Madison limestone at 6,525 feet and is cementing casing below 6,552 feet. Core samples from the lower Dalhousie sand were heavily saturated with oil and gas. It is expected to finish in the lime some time this month.

Richland Royalties No. 3, LSD 14, section 28-18-2w5, is below 5,600 feet and expected to get the lime around 5,640 feet. It is taking about 30 bbls. a day of light crude from the Dalhousie sand while drilling.

Royalite Oil Co. No. 5 Sterling Pacific, LSD 12, section 33-18-2w5, is in the Dalhousie below 6,354 feet and expected to get the lime around 6,650 feet.

West Side Drilling

In West Central Turner Valley, Brown Oil Corp. No. 3, LSD 15, section 19-19-2w5, is below 425 feet. Five other companies are sharing this venture, which is located a little west of the old Advance Oil Co. No. 5-A producer.

North American Petroleums No. 1, LSD 10, section 5-19-2w5, has been taken over by Vulcan-Brown Petroleums, Ltd., recently organized at Calgary by Vulcan Oils, Ltd., and the R. A. Brown interests. Test will be known as Vulcan-Brown No. 1, and is drilling below 250 feet.

In section 33-18-2w5, Royalite Oil Co. No. 6 Sterling Pacific, LSD 5, is deepening after cementing surface casing at 323 feet.

In section 32-18-2w5, West Flank No. 2, LSD 1-8, is rigged ready to spud. West No. 3, LSD 8, is working on cellar.

In section 20-18-2w5, Royal Canadian Oils No. 1, LSD 15, is at 600 feet and installing rotary equipment.

West of the field, Okalta No. 6, LSD 3, section 30-18-2w5, is rigging and will spud about July 10.

North Turner Valley

In North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, is below 3,200 feet. Home Oil Co. No. 1, LSD 8, section 33-20-3w5, is drilling below 150 feet.

Arca Test Abandoned

On the Cayley structure in the High River district east of Turner Valley, Arca Development Corp. No. 1, NW section 24-18-1w5, has been definitely abandoned after exhaustive testing of the upper horizons. At 8,988 feet well established a new deep drilling record for Canada and the British Empire. No drilling mishaps were experienced. No consideration has yet been given to the future program of the company, according to an official statement of H. R. Milner, president.

On the Aldersyde structure, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is drilling at 7,200 feet.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is in hard black limey formation below 7,987 feet, and expected to get the Madison lime shortly.

On the Kootenay dome west of Calgary, Roxana Petroleums No. 1, section 8-24-7w5, is 550 feet in the Banff shales below 2,900 feet.

On the Moose dome, Moose Oils No. 1, LSD 8, section 29-22-6w5, is in the Devonian lime below 1,020 feet.

On the Mill Creek structure west of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, bottoming at 5,960 feet, is bailing for production test below 5,260 feet.

Saskatchewan Test

In West Central Saskatchewan, Franco Oils No. 2, on the Vera structure near Unity, has cleaned out old hole to 1,600 feet and is deepening. An earlier deep test in this field indicated the first producing horizon at 1,750 feet with a 27-foot oil sand at 2,105 feet and gas and oil sands at 2,300 and 2,400 feet.

In the Lloydminster field, Triangle Oil & Gas Co. No. 2, 1 mile east of Colony Oil & Gas Co. No. 2 gasser, has spudded.

Border Fields

West of Lethbridge, in southern Alberta, Lethbridge Petroleum & Refining No. 1, LSD 12, section 11-8-22w4, is in the Foremost formation below 620 feet and logging 430 feet shallower than the old Texas-Imperial well.

In the Steveville district, Anaconda Oil Co. No. 1, LSD 15, section 9-22-12w4, is resuming after setting 24-inch casing at 125 feet.

In the Taber fields, Plains Petroleum Corp. No. 2, LSD 11, section 25-9-17w4, is below 1,100 feet after cementing at the Milk River formation at 860 feet to shut off water. Plains No. 1 producer, LSD 14, section 29-9-17w4, has cleaned to 3,272 feet after cementing for water shut off, and is running 4½-inch casing to bottom. Plains No. 3, section 26-9-17w4, is rigging.

In the Cardston area, Franco Oils No. 1, LSD 6, section 5-3-25w4, bottoming at 4,583 feet, has overcome caving at 3,300 feet due to heavy gas pressure and is cementing against caving at 3,600 feet.

Home Oil Co. of Vancouver, British Columbia, has let contract for a test to be drilled on a structure between Del Bonita and the Red Coulee field.

Ribstone Field

In the Ribstone field, East Central Alberta, Dina Oil & Refining Co. No. 3 has been given a pumping test, indicating a flush production of close to 200 bbls. a day of heavy crude. Dina No. 4, about 200 yards south of No. 3, is working on derrick and will spud this month. The locations are on the Ribstone-Blackfoot anticline about 14 miles north and 7 miles east of Ribstone, and close to the Saskatchewan boundary. The crude, testing about 17 gravity, comes from a sand at 1,875 feet.

In the same field, London-Ribstone Petroleums No. 2, LSD 5, section 22-43-3w4, is setting casing around 2,122 feet in the grit beds overlying the oil sand.

GULF COAST WATER SHIPMENTS FOR APRIL, 1937

Company, terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Sabine District					
Atlantic Pipe Line Co.:					
Atreco	1,506,474	.....	2,387	.....	1,508,861
Gulf Oil Corp.:					
Port Arthur	358,768	.....	2,697,129	37,644	3,093,541
Magnolia Petroleum Co.:					
Beaumont	1,131,013	193,590	1,542,048	.....	2,866,651
Lockport	73,191	.....	.....	.....	73,191
Pure Oil Co.:					
Smiths Bluff	447,473	.....	745,541	.....	1,193,014
Shell Petroleum Corp.:					
Haymark	69,309	269,851	.....	.....	339,160
Stanolind Crude Pur. Co.:					
Beaumont	315,286	105,548	.....	.....	420,834
Sun Oil Co.:					
Beaumont	1,530,873	202,533	.....	.....	1,733,406
Texas Co.:					
Port Arthur	1,248,033	508,826	2,657,721	644,950	5,059,530
Union Sulphur Co.:					
Lockport	236,198	48,686	.....	.....	284,884
Total	6,916,618	1,329,034	7,644,826	682,594	16,573,072
Corpus Christi District					
Atlantic Pipe Line Co.:					
Harbor Island	768,110	.....	.....	.....	768,110
General American Term.:					
Corpus Christi	127,966	216,264	172,259	195,539	712,028
Humble Oil & Ref. Co.:					
Harbor Island	3,064,819	.....	.....	.....	3,064,819
Ingleside	29,503	.....	.....	.....	29,503
Texas Co.:					
Corpus Christi	233,184	62,886	.....	.....	296,070
Miscellaneous	1,035,227	85,665	.....	.....	1,120,892
Total	5,258,809	364,815	172,259	195,539	5,991,422
Rio Grande Valley District					
Valley Pipe Line Co.:					
Port Isabel	1,630	.....	121,268	.....	122,898
Mississippi District					
Shell Petroleum Corp.:					
Norco	.....	.....	497,000	.....	497,000
Texas Co.:					
Amesville	154,316	109,910	.....	.....	264,226
Douglas	.....	127,038	.....	.....	127,038
Total	154,316	236,948	497,000	.....	888,264
Houston-Texas City District					
American Lib. P. L. Co.:					
Norsworthy	73,868	134,874	.....	.....	208,742
Atlantic Pipe Line Co.:					
Texas City	226,887	.....	.....	.....	226,887
Eastern States Pet. Corp.:					
Houston	.....	.....	479,237	.....	479,237
Humble Oil & Ref. Co.:					
Baytown	158,958	75,564	2,740,849	911,706	3,887,077
Texas Co.	550,591	.....	.....	.....	550,591
Independent Term. Co.:					
Texas City	.....	.....	375,577	.....	375,577
Republic Oil Ref. Co.:					
Texas City	.....	.....	48,000	125,484	173,484
Shell Petroleum Corp.:					
Houston	.....	91,148	1,625,047	111,637	1,827,832
Sinclair Refining Co.:					
Houston	1,056,024	.....	.....	.....	1,056,024
Sun Oil Co.:					
Norsworthy	317,892	.....	.....	.....	317,892
Texas Co.:					
Houston	491,779	71,923	.....	.....	563,702
Miscellaneous	.....	.....	2,730,862	857,296	3,588,158
Total	2,875,999	373,509	7,999,572	2,006,123	13,255,203
District Totals					
Sabine	6,916,618	1,329,034	7,644,826	682,594	16,573,072
Corpus Christi	5,258,809	364,815	172,259	195,539	5,991,422
Rio Grande Valley	1,630	.....	121,268	.....	122,898
Mississippi	154,316	236,948	497,000	.....	888,264
Houston-Texas City	2,875,999	373,509	7,999,572	2,006,123	13,255,203
Total	15,207,372	2,304,306	16,434,925	2,884,256	36,830,859

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil, No. 1-24 Capitan, Santa Barbara Co.	32- 5-30	1,328	O.S. drlg.
Texas Co., No. 1 Careaga, Santa Barbara Co.	1- 4-31	965	sd. sh. drlg.
Hancock-Bush, No. 2-B Santa Maria, Santa Barbara	25-10-34	3,824	sd. sh. drlg.
Sed Oil, No. 1 Mills, Santa Maria, Santa Barbara Co.	27-10-34	2,000	sd. sh. drlg.
Union Oil, No. 3-M Santa Maria, Santa Barbara Co.	30-10-33	3,800	bailing
Union Oil, No. 1-R Santa Maria, Santa Barbara Co.	21-10-34	4,579	pump. 305 b.d.
Union Oil, No. 1-19-E Santa Maria, Santa Barbara Co.	23-10-34	1,164	sd. sh. drlg.
Union Oil, No. 1-C Santa Maria, Santa Barbara Co.	30-10-33	3,510	sd. sh. drlg.
Union Oil, No. 1-B Santa Maria, Santa Barbara Co.	21-10-34	1,310	sd. sh. drlg.
Union Oil, No. 19 Orcutt, Santa Barbara Co.	26- 9-34	3,565	sd. sh. drlg.
Pacific Western Oil, No. 1-H Santa Barbara Co.	21-10-34	4,227	sd. sh. drlg.
Rice Ranch Oil, No. 4 Orcutt, Santa Barbara Co.	23- 9-34	4,300	br. sh. drlg.
Valley Oil, No. 1 Casmalia, Santa Barbara Co.	20- 9-34	2,340	idle
Cal. Drlg., No. 1-H Santa Maria, Santa Barbara Co.	9- 9-33	5,003	cleaning out
101 Oil, No. 1 Pt. Concepcion, Santa Barbara Co.	35- 5-33	365	rigging up
Hancock Oil, No. 2 Los Alamos, Santa Barbara Co.	6- 7-32	2,754	sd. sh. drlg.
Arnold Oil, No. 2 Los Alamos, Santa Barbara Co.	8- 8-33	4,621	br. sh. drlg.
Field Gasoline, No. 2-C Gato Ridge, Santa Barbara	4- 8-32	3,400	br. sh. drlg.
Nine Springs Oil, No. 1 Los Olivos, Santa Barbara	9- 7-30	3,310	bailing wtr.
Oatman Mining, No. 1 Mesa, Santa Barbara Co.	28- 4-27	2,002	cleaning out
Del Mar Oil, No. 1 Summerland, Santa Barbara Co.	16- 4-26	2,084	sd. sh. drlg.
Skyline Pet., No. 1 Hopper Canyon, Ventura Co.	13- 4-19	467	sd. sh. drlg.
Petroleum Securities, No. 1 Calumet, Shiells, Ventura	3- 3-19	1,510	sd. sh. drlg.
Texas Co., No. 129 Shiells, Ventura Co.	4- 3-19	4,812	redrlg. 2,797
Union Oil, No. 16 Bardsdale, Ventura Co.	12- 3-20	5,190	sd. sh. drlg.
Richfield Oil, No. 1 Camarillo, Ventura Co.	18- 2-20	301	core drill
Condor Oil, No. 1 Sespe, Ventura Co.	6- 4-19	2,031	br. sh. drlg.
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	1,218	sd. sh. drlg.
Topa Topa Oil, No. 2 Sespe, Ventura Co.	33- 5-19	3,656	rd. sd. drlg.
Speik Oil, No. 2 Sespe, Ventura Co.	33- 5-19	2,745	sd. sh. drlg.
Colima Oil, No. 2 Sespe, Ventura Co.	25- 5-19	3,012	sd. sh. drlg.
Pacific Western Oil, No. 9 Temescal, Ventura Co.	3- 4-18	1,975	sd. sh. drlg.
Vai, Giovani, No. 1 Ojai, Ventura Co.	4- 4-21	792	hd. sh. drlg.
Texas Co., No. 1 Saticoy, Ventura Co.	31- 3-21	2,960	dry; abd.
Continental Oil, No. 1 Red Mountain, Ventura Co.	7- 3-23	7,912	fish. D.P.
Continental Oil, No. 7 San Miguelito, Ventura Co.	23- 3-24	6,845	O.S. drlg.
C. C. M. Oil, No. 2 Padre Canyon, Ventura Co.	23- 3-24	6,465	redrlg. 6,071
Continental Oil, No. 3 Padre Canyon, Ventura Co.	15- 3-24	7,291	idle
C. C. M. Oil, No. 14 Rincon, Ventura Co.	17- 3-24	3,418	gr. sd. drlg.
C. C. M. Oil, No. 15 Rincon, Ventura Co.	17- 3-24	2,393	sd. sh. drlg.
Richfield Oil, No. 2 Hobson, Rincon, Ventura Co.	8- 3-24	1,962	sd. sh. drlg.
El Rio Oil, No. 1 Oxnard, Ventura Co.	6- 1-21	3,000	idle
Tide Water A. O., No. 31 V.L.W., Ventura, Ventura	24- 3-23	5,340	sd. sh. drlg.
Tide Water A. O., No. 61 Lloyd, Ventura, Ventura	27- 3-23	1,810	sd. sh. drlg.
Tide Water A. O., No. 62 Lloyd, Ventura, Ventura	27- 3-23	2,196	sd. sh. drlg.
Tide Water A. O., No. 81 Lloyd, Ventura, Ventura	27- 3-23	7,600	flow. 310 b.d.
Tide Water A. O., No. 137 Lloyd, Ventura, Ventura	27- 3-23	8,054	gr. sd. drlg.
Tide Water A. O., No. 18 Hartman, Ventura, Ventura	22- 3-23	3,652	sd. sh. drlg.
Shell Oil, No. 91 Taylor, Ventura, Ventura Co.	30- 3-23	7,530	sd. sh. drlg.
Shell Oil, No. 35 Gosnell, Ventura, Ventura Co.	28- 3-23	8,950	redrlg. 7,865
General Pet., No. 17 Barnard, Ventura, Ventura Co.	23- 3-23	8,040	hd. sh. drlg.
Den Pet., No. 1 Devils Den, Kern Co.	20-25-19	4,276	idle
Texas Co., No. 2-32 Theta, Lost Hills, Kern Co.	2-26-20	1,226	sd. sh. drlg.
Amerada Pet., No. 1 Blackwell Corner, Kern Co.	17-26-19	2,670	test. W.S.O.
East Puente Oil, No. 23-11 McKittrick, Kern Co.	11-30-21	941	sd. sh. drlg.
Continental Oil, No. 2 Wasco, Kern Co.	8-27-24	1,951	sd. sh. drlg.
Seaboard Oil, No. 1 Wasco, Kern Co.	26-27-24	10,015	br. sh. drlg.
Belridge Oil, No. 3-35 North Belridge, Kern Co.	35-27-20	8,090	cmtd. 8,048
Belridge Oil, No. 61-26 North Belridge, Kern Co.	26-27-20	3,391	redrlg. 3,287
Belridge Oil, No. 28-1 North Belridge, Kern Co.	1-28-20	3,580	sd. sh. drlg.
Continental Oil, No. 9 North Belridge, Kern Co.	36-27-20	7,751	hd. sh. drlg.
Tide Water Associated, No. 6 North Belridge, Kern	34-27-20	7,451	br. sh. drlg.
Texas Co., No. 1 Martin, North Belridge, Kern Co.	22-27-20	6,004	br. sh. drlg.
Ohio Oil, No. 1 Hopkins, South Belridge, Kern Co.	4-29-21	551	sd. sh. drlg.
Santa Ynez Oil, No. 1 Temblor, Kern Co.	36-29-20	1,365	sd. sh. drlg.
Patton-Baldwin Oil, No. 1 Round Mountain, Kern	32-28-29	2,156	dry; abd.
Honolulu Oil, No. 21 Round Mountain, Kern Co.	20-28-29	1,933	rig. to pump
Honolulu Oil, No. 13 Round Mountain, Kern Co.	18-28-29	1,955	O.S. drlg.
Cal-Western Oil, No. 1-D Round Mountain, Kern Co.	4-28-29	1,071	dry; abd.
Republic Pet., No. 2 Cal Tech, Kern Front, Kern Co.	24-28-27	1,909	rig. to pump
McDonald & Dearin, No. 4 Carrie, Kern Front, Kern	10-28-27	2,141	recmtd. 1,984
Apex Pet., No. 10-3 Kern Front, Kern Co.	10-28-27	2,247	O.S. drlg.
Associated Hold., No. 1-H Kern Front, Kern Co.	11-28-27	1,950	O.S. drlg.
Oil, Inc., No. 7-2 Kern Front, Kern Co.	13-28-27	1,289	P.B. 1,247
General Pet., No. 53 Young, Kern Front, Kern Co.	13-28-27	1,989	tested wet
California Star Oil, No. 10-80 Kern Front, Kern Co.	22-27-27	2,702	sd. sh. drlg.
Texas Co., No. 7 Lehman, Kern Front, Kern Co.	23-28-27	2,125	bailing
Shell Oil, No. 1 Bellview, Kern Co.	31-29-27	5,542	sd. sh. drlg.
Superior Oil, No. 2 Bakersfield, Kern Co.	36-29-28	2,774	will deepen
Palmer & Luse, No. 1 Kern River, Kern Co.	10-28-28	831	sd. sh. drlg.
Italo Pet., No. 1-K Kern River, Kern Co.	19-28-28	1,651	sd. sh. drlg.
Ring Oil, No. 1-S Mount Poso, Kern Co.	32-26-28	1,654	sd. sh. drlg.
C. C. M. Oil, No. 1 Carter, Mount Poso, Kern Co.	7-27-27	3,721	gr. sd. drlg.
Framac Oil, No. 1 Brown, Mount Poso, Kern Co.	22-27-27	1,351	fish. D.P.
Chevalier, J. J., No. 3 S.P., Mount Poso, Kern Co.	3-27-28	1,475	cleaning out
Vanguard Oil, No. 7 Baker, Mount Poso, Kern Co.	33-27-28	1,746	cleaning out
General Pet., No. 7 Helsen, Mount Poso, Kern Co.	16-27-28	1,722	pump. 489 b.d.
Shell Oil, No. 20 Security, Mount Poso, Kern Co.	16-27-28	1,765	cmtd. 1,763
Shell Oil, No. 13 Vedder-Rall, Mount Poso, Kern Co.	9-27-28	1,810	pump. 593 b.d.
Banducci, L. J., No. 2-T Fruitvale, Kern Co.	26-29-27	3,770	cleaning out
Berman, A. B., No. 1 Fruitvale, Kern Co.	23-29-27	2,685	idle
Western Gulf Oil, No. 2-M Fruitvale, Kern Co.	27-29-27	3,251	sd. sh. drlg.
Wilbur, V. R. G., No. 1 Fruitvale, Kern Co.	22-29-27	3,835	pump. 112 b.d.
Simmel, L. C., No. 1 Fruitvale, Kern Co.	23-29-27	2,674	sd. sh. drlg.
Gardner & Powell, No. 1 Fruitvale, Kern Co.	23-29-27	504	cmtd. 504
Mohawk Pet., No. 4-23 K.C.L., Fruitvale, Kern Co.	23-29-27	3,163	P.B. 3,138
B. & O. Oil, No. 1-7 Fruitvale, Kern Co.	14-29-27	2,804	resume work
Mesa Pet., No. 1-L Fruitvale, Kern Co.	28-29-27	3,390	hd. sd. drlg.
American Expl., No. 1-G Mountain View, Kern Co.	18-30-29	4,792	P.B. 4,722
American Expl., No. 1-C Mountain View, Kern Co.	18-30-29	4,730	P.B. 2,200
Savoy Oil, No. 2-W Mountain View, Kern Co.	34-30-29	5,044	dry; abd.
Standard Oil, No. 5-M Mountain View, Kern Co.	18-30-29	2,260	sd. sh. drlg.
Tracy Drlg., No. 1-B Mountain View, Kern Co.	19-30-29	5,165	cleaning out
Ohio Oil, No. 2-B Mountain View, Kern Co.	33-30-29	1,761	sd. sh. drlg.
Petrol Prod., No. 1 Earl, Mountain View, Kern Co.	4-31-29	1,641	sd. sh. drlg.
Hogan Pet., No. 4 Symons, Mountain View, Kern Co.	5-31-29	6,188	cleaning out
Hogan Pet., No. 3 Bankline, Mountain View, Kern Co.	4-31-29	5,424	flow. 719 b.d.
Hogan Pet., No. 10 Porter, Mountain View, Kern Co.	29-30-29	3,965	sd. sh. drlg.
Greer, P. H., No. 2 Perrel, Mountain View, Kern Co.	9-31-29	6,053	gr. sd. drlg.
Golden Bear Oil, No. 1 Edison, Mountain View, Kern	12-30-29	1,461	sd. sh. drlg.
Monterey Expl, No. 6 Duff, Edison, Kern Co.	15-30-29	3,605	P.B. 3,412
Berree Oil, No. 6 Seale, Edison, Kern Co.	5-30-29	2,075	sd. sh. drlg.
Bacal Oil, No. 1 Brown, Edison, Kern Co.	5-30-30	1,790	idle
Cajalco Pet., No. 1 Brown, Edison, Kern Co.	9-30-30	3,404	gr. sd. drlg.
Metro Oil, No. 2 Edison, Kern Co.	6-30-29	2,593	P.B. 2,530
East Edison Oil, No. 2 Edison, Kern Co.	23-30-30	1,551	sd. sh. drlg.
Arkelo Oil, No. 1 Lerdo, Kern Co.	23-28-26	10,050	fish. D.P.
Union Oil, No. 1-34 Rio Bravo, Kern Co.	34-28-25	9,440	br. sh. drlg.
Continental Oil, No. 1 Rosedale, Kern Co.	12-29-26	9,650	gr. sd. drlg.
Standard Oil, No. 11-4 KCL, Greeley, Kern Co.	20-29-26	7,691	sd. sh. drlg.
Standard Oil, No. 11-5 KCL, Greeley, Kern Co.	20-29-26	7,800	flow. 327 b.d.
Standard Oil, No. 11-6 KCL, Greeley, Kern Co.	20-29-26	6,734	sd. sh. drlg.
Standard Oil, No. 12-1 KCL, Greeley, Kern Co.	30-29-26	8,496	sd. sh. drlg.
Union Oil, No. 4 San Emidio, Kern Co.	31-11-22	1,450	br. sh. drlg.
Shell Oil, No. 21-14 Old River, Kern Co.	14-30-25	8,615	reaming
Shell Oil, No. 58-29 Ten Section, Kern Co.	29-30-26	8,126	O.S. drlg.
Ohio Oil, No. 2-E Ten Section, Kern Co.	6-30-26	8,562	sd. sh. drlg.
C. C. M. Oil, No. 22-21 Midway-Sunset, Kern Co.	28-32-23	1,774	br. sh. drlg.
C. C. M. Oil, No. 32-21 Midway-Sunset, Kern Co.	21-32-23	1,935	br. sh. drlg.
Evans, H. B., No. 19 Midway-Sunset, Kern Co.	35-32-23	671	sd. sh. drlg.
Signal Oil, No. 5-W Midway-Sunset, Kern Co.	8-11-23	2,915	sd. sh. drlg.
Monticello Oil, No. 4 Midway-Sunset, Kern Co.	27-31-22	851	sd. sh. drlg.
Ethel D Oil, No. 43 Midway-Sunset, Kern Co.	36-12-24	1,132	sd. sh. drlg.
Standard Oil, No. 7-13-D Midway-Sunset, Kern Co.	13-32-24	3,585	sd. sh. drlg.
Standard Oil, No. 50-33-D Midway-Sunset, Kern Co.	33-32-24	1,205	sd. sh. drlg.
Standard Oil, No. 51-33-D Midway-Sunset, Kern Co.	33-32-24	2,835	pump. 33 b.d.
Standard Oil, No. 93-33-D Midway-Sunset, Kern Co.	33-32-24	3,120	pump. 739 b.d.
Tide Water A. O., No. 5-P.C., Midway-Sunset, Kern	32-31-23	3,450	wet; abd.
Merritt-Annex Oil, No. 5 Fried, Midway-Sunset, Kern	25-12-24	2,475	sd. sh. drlg.
Valley Oil, No. 1 Midway-Sunset, Kern Co.	18-32-23	3,172	dry; abd.
Texas Co., No. 22 Midway-Sunset, Kern Co.	32-32-24	3,102	pump. 650 b.d.
U. S. Pumping Equip., No. 5 Midway-Sunset, Kern	12-11-24	1,665	cmtd. 1,383

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

General Pet., No. 49-B Midway-Sunset, Kern Co.	24-31-23	4,495	test. wet
Hoyt, Otis, No. 6 Midway-Sunset, Kern Co.	7-11-23	1,531	sd. sh. drlg.
Richfield Oil, No. 13-D Crampton, Elk Hills, Kern Co.	1-31-24	3,235	sd. sh. drlg.
Reserve Oil & Gas, No. 33-4 Tejon, Kern Co.	33-11-19	4,915	hd. sh. drlg.
Wilshire Oil, No. 1 Tejon, Kern Co.	5-10-19	4,841	sd. sh. drlg.
Ohio Oil, No. 2 Tejon, Kern Co.	21-11-19	9,485	gr. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	10,753	cmt. 6⅝ csg.
K. N. D. A., No. 47-28-J Kettleman North, Fresno Co.	28-21-17	1,764	sd. sh. drlg.
K. N. D .A., No. 67-28-J Kettleman North, Fresno Co.	28-21-17	7,192	sd. sh. drlg.
K. N. D. A., No. 78-28-J Kettleman North, Fresno Co.	28-21-17	8,140	recmtd. 7,360
K. N. D. A., No. 2-34-J Kettleman North, Fresno Co.	34-21-17	7,974	gr. sd. drlg.
K. N. D. A., No. 32-34-J Kettleman North, Fresno Co.	34-21-17	7,700	gr. sd. drlg.
K. N. D. A., No. 41-4-P Kettleman North, Fresno Co.	4-22-17	5,861	sd. sh. drlg.
K. N. D. A., No. 61-4-P Kettleman North, Fresno Co.	4-22-17	8,350	flow. 2,464 b.d.
Standard Oil, No. 41-33-J Kettleman North, Fresno	33-21-17	6,836	sd. sh. drlg.
Standard Oil, No. 81-33-J Kettleman North, Fresno	33-21-17	8,047	flow. 836 b.d.
Standard Oil, No. 4-3-P Kettleman North, Fresno	3-22-17	6,534	sd. sh. drlg.
Standard Oil, No. 78-3-P Kettleman North, Kings Co.	3-22-17	8,005	sd. sh. drlg.
Temblor Oil, No. 1-B Kettleman Middle, Kings Co.	25-23-18	6,398	sd. sh. drlg.
Bisconer, R., No. 1 Cloud, Kings Co.	11-24-20	1,454	sd. sh. drlg.
Birch-Ranch Oil Co., No. 1 Orr, Kings Co.	5-23-17	1,248	sd. sh. drlg.
Clare, A. S., No. 1 Corcoran, Kings Co.	30-20-22	992	idle
Temblor Oil, No. 1 Panorama, San Luis Obispo Co.	22-32-21	1,715	cleaning out
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,774	bailing
Shell Oil, No. 1 Pieyto, Monterey Co.	34-24-10	8,994	P.B. 8,678
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	1,060	idle
California Oils, Inc., No. 1 Parkfield, Monterey Co.	33-23-15	3,500	resume work
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	7,708	cleaning out
Amerada Pet., No. 1 Triqueiro, Rio Vista, Solano Co.	24- 4- 2	4,422	sd. sh. drlg.
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15- 1	5,810	fish. D.P.
Turner, L. E., No. 1 Tipton, Tulare Co.	15-22-26	262	sd. sh. drlg.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,709	cleaning out
Standard Oil, No. 1 Middle River, San Joaquin Co.	24- 1- 5	5,590	gr. sd. drlg.
Texas Co., No. 1 Roberts Island, San Joaquin Co.	8- 1- 6	3,180	sd. sh. drlg.
Coast Expl., Well No. 1, Stanislaus Co.	30- 4- 9	4,455	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil, No. 6 El Segundo, Los Angeles Co.	18- 3-14	6,284	sd. sh. drlg.
Richfield Oil, No. 1 Elsie, El Segundo, Los Angeles	12- 3-15	6,280	sd. sh. drlg.
Ohio Oil, No. 4 El Segundo, Los Angeles Co.	7- 3-14	7,060	sd. sh. drlg.
Ohio Oil, No. 5 El Segundo, Los Angeles Co.	7- 3-14	7,281	sd. sh. drlg.
Douglas Oil, No. 9 Lawndale, Los Angeles Co.	20- 3-14	6,365	redrlg. 6,342
Calizoo Oil, No. 1 S.L.A., Los Angeles Co.	16- 3-13	6,794	hd. sd. drlg.
Calmore Oil, No. 1 C.O.C., Torrance, Los Angeles Co.	6- 4-14	3,665	sd. sh. drlg.
C. C. M. Oil, No. 34-T Torrance, Los Angeles Co.	16- 4-14	4,288	br. sh. drlg.
McLaren & Assoc., No. 1 Palos Verdes, Los Angeles	27- 4-14	3,992	redrlg. 1,945
K. & I. Corp., No. 25 Rubel, Inglewood, Los Angeles	8- 2-14	3,350	sd. sh. drlg.
Country Club Oil, No. 1 Inglewood, Los Angeles Co.	19- 2-14	3,010	sd. sh. drlg.
Sheli Oil, No. 90 Reyes, Dominguez, Los Angeles	33- 3-13	9,598	P.B.7,580
Shell Oil, No. 91 Reyes, Dominguez, Los Angeles	33- 3-13	2,490	idle
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	10,435	P.B. 9,605
Union Oil, No. 54 Callender, Dominguez, Los Angeles	33- 3-13	3,960	sd. sh. drlg.
Union Oil, No. 55 Callender, Dominguez, Los Angeles	33- 3-13	6,273	sd. sh. drlg.
Union Oil, No. 47 Heliman, Dominguez, Los Angeles	33- 3-13	4,766	sd. sh. drlg.
Barnsdall Oil, No. 16 O'Dea, Rosecrans, Los Angeles	18- 3-13	5,531	sd. sh. drlg.
Barnsdall Oil, No. 17 O'Dea, Rosecrans, Los Angeles	18- 3-13	1,890	sd. sh. drlg.
Union Oil, No. 16 Rosecrans, Los Angeles Co.	18- 3-13	7,560	will cmt.
Macrate, A. N., No. 2 Rosecrans, Los Angeles Co.	17- 3-13	4,984	sd. sh. drlg.
Universal Consd., No. 1-T Rosecrans, Los Angeles	18- 3-13	6,685	sd. sh. drlg.
Bolsa Chica Oil, No. 1 Rosecrans, Los Angeles Co.	20- 3-13	7,320	sd. sh. drlg.
Union Oil, No. 18 D.R., Playa Del Rey, Los Angeles	27- 2-15	5,868	sd. sh. drlg.
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	1,800	sd. sh. drlg.
Barnsdall Oil, No. 2-S.F., Newhall, Los Angeles Co.	26- 4-17	1,594	sd. sh. drlg.
Holbrook Pet., No. 1 Newhall, Los Angeles Co.	28- 4-16	5,810	sd. sh. drlg.
General Pet., No. 3 Ford, Wilmington, Los Angeles	4- 5-13	5,355	to deepen
General Pet., No. 9 Ford, Wilmington, Los Angeles	4- 5-13	4,118	sd. sh. drlg.
General Pet., No. 10 Ford, Wilmington, Los Angeles	4- 5-13	3,045	sd. sh. drlg.
General Pet., No. 11 Ford, Wilmington, Los Angeles	4- 5-13	3,100	flow. 670 b.d.
General Pet., No. 14 Ford, Wilmington, Los Angeles	4- 5-13	1,596	sd. sh. drlg.
General Pet., No. 2 Isco, Wilmington, Los Angeles	4- 5-13	2,760	sd. sh. drlg.
General Pet., No. 4-P Wilmington, Los Angeles	4- 5-13	2,142	sd. sh. drlg.
General Pet., No. 4-T Wilmington, Los Angeles	4- 5-13	1,521	sd. sh. drlg.
General Pet., No. 5-T Wilmington, Los Angeles	4- 5-13	2,533	sd. sh. drlg.
A. C. P. Oil, No. 1 Com., Wilmington, Los Angeles	33- 4-13	2,551	sd. sh. drlg.
Bankline Oil, No. 2-C.Y., Wilmington, Los Angeles	33- 4-13	3,493	rig. to pump
Bankline Oil, No. 7-P.T., Wilmington, Los Angeles	33- 4-13	3,162	sd. sh. drlg.
Bankline Oil, No. 19-P.T., Wilmington, Los Angeles	34- 4-13	2,950	sd. sh. drlg.
Burnoel Oil, No. 1-E Wilmington, Los Angeles	33- 4-13	3,550	O.S. drlg.
Black Gold Oil, No. 3 Wilmington, Los Angeles Co.	32- 4-13	2,987	sd. sh. drlg.
Crude Oil Drlg., No. 1-W Wilmington, Los Angeles	33- 4-13	974	sd. sh. drlg.
Dunlap, D. D., No. 2 Wilmington, Los Angeles Co.	32- 4-13	2,951	sd. sh. drlg.
Graham-Loftus Oil, No. 1-P Wilmington, Los Angeles	33- 4-13	3,447	tested wet
Hall, Inc., No. 15-8 Wilmington, Los Angeles Co.	32- 4-13	1,996	sd. sh. drlg.
Hughes, W., No. 1 Wilmington, Los Angeles Co.	33- 4-13	2,150	sd. sh. drlg.
Jergins Trust, No. 6 Wilmington, Los Angeles Co.	34- 4-13	3,251	redrlg. 3,123
Jergins Trust, No. 8 Wilmington, Los Angeles Co.	34- 4-13	2,195	sd. sh. drlg.
Las Vegas L. & W., No. 1 Wilmington, Los Angeles	4- 5-13	2,492	reaming
Leal, G. V., No. 2 Wilmington, Los Angeles Co.	5- 5-13	2,900	sd. sh. drlg.
Macmillan Pet., No. 2-H Wilmington, Los Angeles	33- 4-13	3,625	flow. 845 b.d.
Olympic Refg., No. 2 fee, Wilmington, Los Angeles	33- 4-13	3,412	pump. 170 b.d.
Olympic Refg., No. 4 fee, Wilmington, Los Angeles	33- 4-13	2,797	sd. sh. drlg.
Pac. Western, No. 1 Thiele, Wilmington, Los Angeles	33- 4-13	2,550	sd. sh. drlg.
Pac. Western, No. 1 Rush, Wilmington, Los Angeles	33- 4-13	2,829	flow. 205 b.d.
Pongratz, Gus, No. 1-B Wilmington, Los Angeles Co.	32- 4-13	1,997	sd. sh. drlg.
Royalty Service, No. 1-A-SF Wilmington, Los Angeles	33- 4-13	3,580	sd. sh. drlg.
Royalty Service, No. 1 Oilar, Wilmington, L. Angeles	32- 4-13	1,972	sd. sh. drlg.
Royalty Service, No. 5-B-N Wilmington, Los Angeles	33- 4-13	3,495	flow. 745 b.d.
Royalty Service, No. 6-B-N Wilmington, Los Angeles	33- 4-13	3,520	flow. 660 b.d.
Royalty Service, No. 1-D Wilmington, Los Angeles	33- 4-13	2,265	sd. sh. drlg.
Royalty Service, No. 16-5-1 Wilmington, Los Angeles	32- 4-13	2,890	sd. sh. drlg.
Royalty Service, No. 25-8-1 Wilmington, Los Angeles	33- 4-13	....	rigging up
Selegna Eastern, No. 5 Wilmington, Los Angeles	33- 4-13	2,600	sd. sh. drlg.
Sovereign Oil, No. 4-A Wilmington, Los Angeles Co.	33- 4-13	3,594	sd. sh. drlg.
Union Pacific R.R., No. 16 Wilmington, Los Angeles	34- 4-13	3,646	sd. sh. drlg.
Union Pacific R.R., No. 23 Wilmington, Los Angeles	4- 5-13	3,504	sd. sh. drlg.
Union Pacific R.R., No. 25 Wilmington, Los Angeles	33- 4-13	3,064	sd. sh. drlg.
Union Pacific R.R., No. 28 Wilmington, Los Angeles	4- 5-13	1,510	sd. sh. drlg.
Union Pacific R.R., No. 29 Wilmington, Los Angeles	4- 5-13	2,568	sd. sh. drlg.
Union Pacific R.R., No. 31 Wilmington, Los Angeles	34- 4-13	2,360	sd. sh. drlg.
Union Pacific R.R., No. 33 Wilmington, Los Angeles	33- 4-13	1,974	sd. sh. drlg.
Union Pacific R.R., No. 1-C Wilmington, Los Angeles	33- 4-13	3,139	sd. sh. drlg.
Sunset Oil, No. 1 Manhattan, Los Angeles Co.	19- 3-14	5,741	rigging up
Julian, C. A., No. 1 Koch, Walnut, Los Angeles Co.	5- 2- 9	1,876	sd. sh. drlg.
Richfield Oil, No. 2 Ciocca, Montebello, Los Angeles	5- 2-11	5,166	sd. sh. drlg.
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	5,657	tested wet
Texas Co., No. 17 Baldwin, Montebello, Los Angeles	6- 2-11	6,380	sd. sh. drlg.
Universal Consd., No. 1-F Montebello, Los Angeles	5- 2-11	5,828	flow. 648 b.d.
Texas Co., No. 21-F Long Beach, Los Angeles Co.	19- 4-12	4,750	bailing
Texas Co., No. 3 Flower, Long Beach, Los Angeles	19- 4-12	3,965	sd. sh. drlg.
Mitchell, A. D., No. 3 Plymouth, Long Beach, L. A. Co.	19- 4-12	3,240	redrlg. 1,990
Shell Oil, No. 14 Cresson, Long Beach, Los Angeles	19- 4-12	2,562	sd. sh. drlg.
Richfield Oil, No. 5 Frye, Long Beach, Los Angeles	19- 4-12	3,595	cleaning out
Coastal Oil & Gas, No. 1 Signal, Long Beach, L.A. Co.	19- 4-11	3,296	sd. sh. drlg.
General Pet., No. 27 Santa Fe Springs, Los Angeles	5- 3-11	4,796	rig. to pump
Union Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	10,789	fish. D.P.
Wales Pet., No. 1-H Monterey Park, Los Angeles	26- 1-12	1,870	sd. sh. drlg.
Standard Oil, No. 28 S.G., Seal Beach, Orange Co.	11- 5-12	6,530	pump. 38 b.d.
Tide Water A. O., No. 16-B Seal Beach, Orange Co.	11- 5-12	5,571	sd. sh. drlg.
Lucky Strike Oil, No. 8 Huntington, Orange Co.	2- 6-11	2,700	pump. 70 b.d.
Tide Water A. O., No. 55 M. K., Huntington, Orange	2- 6-11	3,597	pump. 20 b.d.
W. P. R. Oil, No. 3 Huntington, Orange Co.	35- 5-11	4,671	sd. sh. drlg.
Orco Oil, No. 5 Huntington, Orange Co.	2- 6-11	4,697	fishing
Standard Oil, No. 14 Thomson, Huntington, Orange	12- 6-11	3,820	cleaning out
Commander Oil, No. 1 Newport, Orange Co.	29- 6-10	7,905	reaming
Shell Oil, No. 4-1 Columbia, Olinda, Orange Co.	9- 3- 9	3,450	sd. sh. drlg.
Cox, M. A., No. 1 East Coyote, Orange Co.	15- 3-10	5,450	P.B. 5,032
Bartholomae Oil, No. 4 East Coyote, Orange Co.	22- 3-10	5,056	cleaning out
Dolicia Oil, No. 3 A.U.W., East Coyote, Orange Co.	24- 3-10	2,445	sd. sh. drlg.
Kelly, Thomas, No. 11 East Coyote, Orange Co.	24- 3-10	3,725	cleaning out
Union Oil, No. 20 Hole, East Coyote, Orange Co.	22- 3-10	5,371	reaming
Standard Oil, No. 2-10 East Coyote, Orange Co.	22- 3-10	4,800	pump. 212 b.d.
Standard Oil, No. 2-25 Kraemer, Richfield, Orange	29- 3- 9	4,100	hd. sh. drlg.
Arrowhead Oil, No. 1-B Richfield, Orange Co.	29- 3- 9	3,435	cleaning out
Bachman Pet., No. 1-K Richfield, Orange Co.	29- 3- 9	4,625	bailing water
Joseph, Arthur, No. 1 Richfield, Orange Co.	29- 3- 9	3,740	P.B. 3,660
Union Oil, No. 10 Morse, Richfield, Orange Co.	29- 3- 9	3,300	pump. 105 b.d.
Union Oil, No. 14 Stern, Richfield, Orange Co.	33- 3- 9	2,995	sd. sh. drlg.
Richfield Consd. Oil, No. 1 Yorba, Orange Co.	22- 3- 9	1,700	rig. to pump
Signet Oil, No. 1 Yorba, Orange Co.	21- 3- 9	1,797	cleaning out
West American Oil, No. 1 Tustin, Orange Co.	14- 5- 9	5,176	hd. sd. drlg.

KANSAS

Week Ending July 3 (Descriptions are East unless marked otherwise)

Barber County

Barbara Oil Co. No. 1-27 Holmes, C NW NW sec. 27-33-13w. Chat 4,488 ft.; K.C. 3,980 ft.; drlg. 4,718 ft.

Pryor & Lockhart No. 1 Gant, C SE sec. 7-31-13w. Viola 4,435-38 ft.; acd.; flwd. est. 100 B.O.P.H. and 3,000,000 ft. gas; taking potential.

W. I. Southern, Inc., No. 1 Davis, SE SE NE sec. 24-34-15w. Drlg. 1,905 ft.

Barton County

S. E. Bailey No. 1 Hammeke, NE NE SW sec. 12-18-12w. Drlg. 3,380 ft.

J. B. Hanna No. 1 Luce, SW cor. sec. 21-20-13w. Drlg. 105 ft.

Helmerich & Payne et al No. 1 Sessler, SW SW SE sec. 29-20-1w. T.D. 80 ft.; pipe froze.

Sam Murphy No. 1 Beck, NE cor. sec. 17-17-12w. Drlg. 440 ft.

Republic Nat. Gas Co. and Continental Oil Co. No. 1 Moeder, NE NE SW sec. 25-17-13w. Sil. 3,370 ft., S.W.; T.D. 3,440 ft.

Shell Pet Corp. No. 1 Schneider, CNL S½ SE sec. 12-16-14w. Sil. 3,323 ft.; cg.

Stanolind No. 1 Schartz, NW cor. sec. 33-19-11w. K.C. 3,075 ft.; cong. 3,323 ft.; Sil. 3,328 ft.; T.D. 3,333 ft.; to set 7-in.

Butler County

Kahn et al No. 1-A Madden, SW SW NE sec. 27-23-4. K.C. 2,065 ft.; T.D. 2,212 ft.; pot. 30 B.O. with 60 B.W.

Simpson Oil Co. et al No. 1-A Dennis, NE NE SW sec. 15-26-6. Set 8-in. 2,380 ft.; drlg. 2,720 ft.

Maurer & Saco Oil Co. No. 1 Connell, NE NE SW sec. 27-29-5e. Set 10-in. 1,828 ft.; drlg. 1,950 ft.

Chautauqua County

C. L. Brosius et al No. 1 Garrett, NW SW NW sec. 26-32-11. Drlg. 843 ft.

Robinson et al. No. 1 Foster, SW cor. sec. 6-33-12. S.O.&G. 1,780 ft.; drlg. 1,810 ft.

Cowley County

B. B. Blair et al No. 1 Miller, NE NW SW sec. 14-32-5. T.D. 3,145 ft.

McCoy et al No. 1 Anderson, SE NW NE sec. 34-34-6. Set 6-in. 2,440 ft.; drlg. 2,610 ft.

Palmer et al No. 1 Ogrosky, SE SE NW sec. 31-32-5. T.D. 3,161 ft.

Trees Oil Co. No. 1 Hornbeck, NW cor. sec. 5-33-4. T.D. 1,843 ft.; U.R.

E. Wakefield No. 1 Powers, NW SW NW sec. 8-32-6. Drlg. 1,012 ft.

Elk County

Morgan et al No. 1 Cook, NW cor. sec. 29-30-12. Drlg. 563 ft.

Republic Nat. Gas Co. No. 1 Glasscock, SE NE SW sec. 19-31-11. T.D. 2,012 ft.; C.O.

Tyrrell No. 1 Sellars, SE cor. sec. 11-31-9. O.W.D.D.; T.D. 2,322 ft.; est. 75 B.O. P.D.

Ellis County

Austin Drlg. Co. No. 1 Karlin, NW cor. sec. 13-12-18w. R.U.

Billings No. 1 Smith, SE SE NW sec. 14-12-16w. Sil. 3,356 ft.; first oil 3,360-64 ft.; T.D. 3,370 ft.; rig burned down; dropped 5-in. csg.; swbd. 4 B.O.P.H. for 16 hrs.

Empire O. & R. Co. No. 1 Hall, NE cor. sec. 14-11-17w. Drlg. 1,020 ft.

J. J. Muth No. 1 Penney, NW SE SE sec. 29-14-18w. S.D. 315 ft.

Vickers Pet. Co. et al No. 1 Parker, C N½ NE NW sec. 35-11-16w. Anhy. 875 ft.; drlg. 1,185 ft.

Earl Wakefield et al No. 1 Burnett, NW NW NE sec. 1-11-18w. Anhy. 1,310 ft.; drlg. 2,185 ft.

Grant County

Kuhn Bros. No. 1 Alderman, C SW sec. 18-29-35w. Drlg. 918 ft.

Greenwood County

Ward McGinnis et al No. 1 Henly Estate SW cor. sec. 25-25-9. T.D. 2,234 ft.; H. F.W.; P.B.

Western Kansas O. & R. Co. No. 1 Taylor, SE SE SW sec. 6-27-12. Drlg. 1,000 ft.

Hamilton County

Denver Prod. & Ref. Co. No. 1 Porter, SW SW NE sec. 30-25-41w. Fsg. 4,390 ft.

Harper County

Magnolia Pet. Co. No. 1 Freeman, SE NW SW sec. 3-31-6w. Drlg. 2,155 ft.

Harvey County

E. I. Shaffer et al No. 1 Epp, SE cor. sec. 15-23-3w. Drlg. 260 ft.

Simpson & Noble et al No. 1 Pierce, SW SE NE sec. 25-22-2w. T.D. 2,814 ft.; U.R. 8-in.

Kearny County

J. L. Murphy No. 1 Masonic Home, C NW sec. 1-26-36w. T.D. 519 ft.; fsg.

Kiowa County

Stanolind Oil & Gas Co. and Amerada Pet. Corp. No. 1 Pyle, Jr., C NW NE sec. 8-29-16w. Drlg. 1,635 ft.

McPherson County

C. E. Ash Drilling Co. No. 1 Broman, NE NE NW sec. 19-17-4w. Rig.

Bradley Bros. No. 1 Barnholt, SW SW SE sec. 30-30-5w. Chat 3,292 ft.; T.D. 3,331 ft.; bailing.

Fred C. Frank et al No. 1 Doles, SE NW NE sec. 12-19-1w. H.F.W. 1,870 ft., T.D.; S.D. for water well.

Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. Chat 3,284 ft.; H.F.W. 3,320-25 ft.; drlg. 3,385 ft.

Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. T.D. 776 ft.; S.D. for repairs.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. Drlg. 3,524 ft.; S.S.G.

Ness County

Jones & Lane No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. T.D. 400 ft.; waiting on csg.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. Inc. oil 4,400-02 ft.; 3,500 ft. O.I.H. at 4,406 ft., T.D.

Pawnee County

Simpson Oil Co. No. 1 Hewson, SE SE SW sec. 13-21-17w. Anhy. 1,035 ft.; Topeka 3,115 ft.; drlg. 3,422 ft.

Pratt County

Atlantic Ref. Co. et al No. 1 Runyon, SW NW NE sec. 11-27-13w. K.C. 3,735 ft.; T.D. 3,931½ ft.; shot.

Reno County

Carter Oil Co. et al No. 1 Bontrager, C E½ NE NE sec. 26-24-5w. K.C. 2,652 ft.; S.O. 3,018-21 ft.; drlg. 3,305 ft.

Rice County

Bell O. & G. Co. et al No. 1 Wilkins, NW NW NE sec. 23-21-9w. Simp. 3,591 ft.; Sil. 3,643 ft.; T.D. 3,662 ft.

Comanche Oil Co. No. 1 Cramm, SW SW SE sec. 15-19-9w. Pay 2,946-47 ft.; 1,800 ft. O.I.H. 1¾ hrs.; shut in; F. 67 B.O. 40 min.; quit flwg.

Gillispie et al No. 1 Strong, NE NE NW sec. 9-18s-8w. R.U.

John Hanna et al No. 1 Marshall, NE NW NW sec. 30-18s-8w. Spd.

Hipple et al No. 1 Wernet, NE NE NW sec. 11-20-6w. Set 8-in. 3,088 ft.; T.D. 3,299 ft.; S.S.O.

H. V. Holland et al No. 1 Brothers, SE cor. sec. 12-21-7w. T.D. 1,605 ft.; S.D.

Fred Phillips et al No. 1 Hubenett, SW NW SW sec. 23-20-6w. Set 5-in. to 3,334 ft.; C.O.

C. E. W. Skiles et al No. 1 Helmer, NW NW NE sec. 7-19-18w. H.F.W. 3,260-65 ft.; S.D.

W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Fsg. 2,345 ft.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. S.D. 3,630 ft.
Brunson Drlg. Co. et al No. 1 Casey, SE SE NE sec. 22-9s-16w. Set 5-in. 3,555 ft.; Cong. 3,570 ft.; drlg. 3,647 ft.
C. R. Craft et al No. 1 Ziegler, NE NE SW sec. 8-10-16w. Topeka 2,850-60 ft.; R.U. S.T.
Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. S.D. 3,326 ft.
S. C. Hoel et al No. 1 Ives, SW SW NE sec. 11-7-18w. Topeka 2,820 ft.; S.S.G. and rainbow oil; drlg. 3,110 ft.
J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Fsg. 3,818 ft.

Rush County

Carter Oil Co. et al No. 1 Brosch, C N½ N½ SE sec. 21-18-16w. D.S.T. 3,533 ft., 3,142,000 ft. gas in 25 min.; R.U.S.T.
Crawford et al No. 1 Jones, NW cor. sec. 35-17-16w. Rig.
Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Sil. 3,492-95 ft.; 1,500 ft. sulfur water in hole in 2½ hrs.; T.D. 3,512 ft.; S.D.O.
S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Set 7-in. 2,698 ft.; drlg. 3,227 ft.
Westgate-Greenland Oil Co. et al No. 1 Greenwalt, NW NW NE sec. 19-19-16w. T.D. 4,017 ft.; P.B. 3,777 ft.

Russell County

Aylward et al No. 1 Jones SE SE NW sec. 23-14-13w. Set 5-in. 3,180 ft.; H.F.W. 3,230 ft.
Billings et al No. 1 Boxberger, NE NE SE sec. 21-14-14w. Anhy. 845 ft.; K.C. 3,008 ft.; S.O. 3,030-35 ft.; T.D. 3,055 ft.; acid; swb. 70 B.O. in 7 hrs.; P.O.P.
Boyle & Grossman No. 1 Deines, SE SE SW sec. 36-15-15w. Sil. 3,451 ft.; H.F.W. 3,471-76 ft.; T.D. 3,179 ft.
Boyle & Grossman No. 1 Steinert Est., NE SE NW sec. 34-15-15w. S.D. 2,835 ft. repairing rig.
Winkler & Koch No. 1 Jones, SE SE NW sec. 22-14-13w. Sil. 3,180 ft.; S.D.O.

Scott County

Olson Drlg. Co. et al No. 1 Nolan, NW NW NE sec. 13-19-33w. K.C. L. 4,106 ft.; C.O. to bottom, 4,792 ft.

Sedgwick County

E. H. Moore, Inc., et al No. 1 Waco, SW SW NW sec. 29-29-1e. Set 12½-in. 219 ft.; W.O.C.
Roxana Drlg. Co. et al No. 1 Woodman, SW NW SW sec. 26-26-1w. S.D. 2,469 ft.
Ryan Cons. Co. et al No. 1 Williams, NW NW SE sec. 17-25-2w. Miss. 3,398 ft.; drlg. 3,480 ft.
E. B. Shawver No. 1 Furman, SW NE SE sec. 24-29-3w. H.F.W. 3,130 ft.; drlg. 3,179 ft.

Stafford County

Atlantic Ref. Co. No. 1 Kachelman, SE NW NW sec. 13-25-14w. Sil. 4,324 ft.; S.W. 4,324-33 ft.; drlg. ahead.
Rose Spring Drlg. Co. et al No. 1 Gray, NW cor. sec. 11-24-13w. Viola 3,483 ft.; S.O. 3,846-50 ft.; set 7-in. csg. 3,843 ft.

Sumner County

John Burton et al No. 1 Springate, NE NE SW sec. 30-33-2e. S.D. 91 ft.
Douglass & Gear No. 1 Strickler, SW NW NE sec. 30-32-1w. Drlg. 515 ft.
Faulkner et al No. 1 Nevitt, NE NW NE sec. 36-32-2e. P.B. 3,570 ft. to 2,782 ft.; pmpd. 2½ B.O. and 2½ B.W.P.H.
Gilmac Oil Co. et al No. 1 Proud, SW SE SE sec. 33-30-1w. Wilcox 3,968 ft.; inc. wtr. 3,990 ft.; drlg. 4,018 ft.
Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Base Miss. 4,250 ft.; S.D. 4,255 ft.

Trego County

W. I. Southern, Inc., No. 1 Latimer, NW NW SE sec. 19-15-22w. Miss. 4,225 ft.; T.D. 4,240 ft.; U.R.&C.O.
F. L. Thorn et al No. 1 Dix, SE SE SW sec. 31-14-24w. Andy. 1,715 ft.; drlg. 2,352 ft.
Turner et al No. 1 Rogers, C SW sec. 3-15-23w. Anhy. 1,650 ft.; drlg. 2,970 ft.

Woodson County

M. B. Allen No. 1 Flack, NE NE NW sec. 1-26-14. Sd. 1,313-42 ft.; T.D. 2,300,000 ft. gas.
B. & B. Oil Co. No. 1 Lockard, NW NW NE sec. 2-26-13e. Drlg. 1,040 ft.
Morris et al No. 1 Koening, SE SE NW sec. 35-24-15. T.D. 1,231 ft.; S.D.
Fred Rapp No. 1 Houghland, NW NW SE sec. 2-25-15. Drlg. 600 ft.

Mid-Continent Pet. Corp. No. 1 Schoup, SW NW SW sec. 24-5-6. Viola 3,085 ft.; Dense 3,135 ft.; T.D. 3,185 ft.; D.&A.
Norbla Oil Co. No. 1 Kennedy, SE SE NE sec. 13-2-5. Drlg. 1,031 ft.
Papoose Oil Co. et al No. 1 Jones, NW SE NW sec. 2-4-5. Viola 2,595 ft.; T.D. 2,840 ft.; run Schlumberger; S.D.O.
Roodhouse et al No. 1 Booth, SE NW SE sec. 20-2-6. Bromide 4,821 ft.; cd. 4,961-66 ft.; salty; to P.B.
Southern Oil Co. No. 1 Young, NE NE SE sec. 17-3-7. H.F.W. 820 ft.; T.D. 840 ft.; lowering csg.
Union Dev. Co. No. 1 Abbott, SW NW NE sec. 34-3-6. Drlg. 1,123 ft.

Pottawatomie County

Atlantic Ref. Co. No. 1 Dooley, SE SE SW sec. 9-11-5. Sylvan 4,746 ft.; Viola 4,839 ft.; Dense 4,863 ft.; Dol. 4,869 ft.; cg.
Mid-Continent Pet. Corp. No. 1 Ne-Thah-Pea-Se, SE SE NE sec. 24-11-4. Earlsboro 3,925 ft.; T.D. 4,225 ft.; D.P. stuck.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Billington-B, SW SE SW sec. 32-9-3e. 2nd Wilcox 5,316 ft.; T.D. 5,321 ft.; swb. 10 B.O. and 1½ bailers water an hr.; to P.B.

Washita County

John Koberg No. 1 Harms, NW NW NE sec. 6-10-16w. Drlg. 1,540 ft. in red beds.

SOUTHERN OKLAHOMA

Carter County

Shell Pet. Corp. No. 1 Smith, NW SE NE sec. 30-5s-1e. T.D. 4,222 ft.; S.D.O.

Coal County

Carter Oil Co. No. 1 Clayton, C W½ NE SW sec. 27-2n-9e. Bldg. rig.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4n-11w. T.D. 2,750 ft.; S.D.

Jackson County

Ace Gutowsky No. 1 Booker, NW cor. sec. 33-2n-18w. T.D. 510 ft.; S.D.
Ace Gutowsky No. 1 Howard, NE SW NW sec. 10-3n-19w. T.D. 891 ft.; S.D.O.
E. L. Lippert et al No. 1 Miller, NW cor. sec. 4-2n-18w. Spd.; S.D.

Johnston County

Patton et al No. 1 McCrummins, C SW SW NE sec. 16-1s-6e. S.D. 1,165 ft.

Jefferson County

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-4s-6w. T.D. 1,842 ft.; S.D.

Love County

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; P.B. 6,927 ft.; S.D. and S.I.

McCurtain County

Wilcox O. & G. Co. No. 1 Neuman, SW SE SW sec. 30-7s-23e. Set 12¼-in. 537 ft.; sd. 545-50 ft., H.F.W.; drlg. 560 ft.

Marshall County

Neff-Godfrey No. 1 Chapman, SW SE SW sec. 36-4s-4e. T.D. 127 ft.; reprg. pump.
Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. T.D. 782 ft.; S.D. for tractor.

Murray County

O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. Bromide sd. 2,570-74 ft. T.D.; S.D.
Power Oil Co. No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. T.D. 3,438 ft.; P.B. 3,175 ft.; enlarging cellar and pits.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. Sd. 3,049-50 ft., S.O.; drlg. 3,345 ft.

Stephens County

Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Simp. 6,030 ft.; sd. 6,434-39 ft.; S.O.; drlg. 6,645 ft. in shale.
Coline Oil Co. No. 1 Johnson, C SW SE SE NE sec. 1-2n-8w. Drlg. 7,005 ft.
Helmerich & Payne No. 1 Graham, SW SW NE sec. 12-1n-5w. T.D. 5,014 ft.; Ed Parsons No. 1 Blake, C SW NW sec. 22-2n-8w. Drlg. sh. and shells 4,125 ft.

Tillman County

Cavens et al No. 1 Southerland, SW SW NW sec. 35-4s-16w. R.U. and S.D.
Magnolia Pet. Co. No. 1 Brown, SW SE NE sec. 21-3s-18w. Canyon 3,480 ft.; Strawn 4,335 ft.; drlg. 6,145 ft.

OKLAHOMA

Week Ending July 3

NORTHERN OKLAHOMA

Alfalfa County

Olson Drlg. Co. et al No. 1 Acre, C SW NE sec. 14-24-11w. O.W.P.B.; fsg. 4,000 ft.

Beckham County

Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Drlg. 2,075 ft. in dolomite.

Caddo County

Clyde Becker et al No. 1 Pharris, SE SE NW sec. 24-6-12w. Drlg. 5,200 ft.

Cleveland County

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. T.D. 7,178 ft.; fshg.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Sd. 2,954-87 ft.; S.S.O.&G.; drlg. 2,990 ft.; H.F.W.

Garfield County

Ohio Oil Co. No. 1 State, SW cor. sec. 13-23-3w. Per. 4,180-4,202 ft. and 3,910-37 ft.; acid.; bailing.

Garvin County

Nels Burton et al No. 1 Burch, SE SE SW sec. 3-3n-1w. Set 12¼-in. 130 ft.; W.O.C.
Carter Oil Co. No. 1 Potts, C E½ SE NW sec. 36-1n-3w. Drlg. 834 ft.

Grady County

Gulf Oil Corp. No. 1 Thomas, SW NW NW sec. 14-4-5w. Drlg. 2,570 ft.

Grant County

Carter Oil Co. et al No. 1 Crisman, C W½ SW NW sec. 16-25-3w. Tonkawa 3,185 ft.; Layton 3,938 ft.; drlg. 4,132 ft.
Carter Oil Co. et al No. 1 Kolarik, NW SW sec. 4-26-5w. Oswego 4,550 ft.; Miss. 4,983 ft.; drlg. 5,036 ft.

Haskell County

Continental Oil Co. No. 1 Ferguson, SW SE NE sec. 33-8-20. Sandy lime 5,546 ft.; drlg. 5,556 ft.

Hughes County

W. O. Allen No. 1 Barnard, SW cor. sec. 24-8-8. Drlg. 1,500 ft.
C. E. Beal No. 1 Eason, NE NE NW sec. 7-9-11. Wapa. 2,983 ft.; Cromwell 3,017-35 ft.; T.D. 3,460 ft.; S.D. for water.
Carter Oil Co. No. 1 Hamilton, C W½ NE SW sec. 33-4-9. Sylvan 5,474 ft.; drlg. 5,885 ft.
E. H. Moore, Inc., No. 1 Buck, NW SW SW sec. 21-8-10. T.D. 2,903 ft.; pulling 8-in. csg.
Moroney & Healey No. 1 Field, C NW SW sec. 11-9-11. Gilcrease 2,766 ft.; fsg. 2,780 ft.
Texas Co. No. 1 Cox, NE NW NW sec. 23-9-8. Set 13-in. 147 ft.; W.O.C.

Kay County

Black Gold Oil Co. No. 2 Cooley, SW cor. sec. 25-28-4e. Drlg. 370 ft.

Kiowa County

Kiowa Oil Corp. No. 1 Finder, C SW NE sec. 4-6-20w. G.W. 936-940 ft.; dry; S.D.

Latimer County

Clark Drlg. Co. et al No. 1 Wilson, C SE SE sec. 15-5-18. T.D. 6,515 ft. in Atoka; S.D.O.

Lincoln County

Cimarron Oil Corp. No. 1 Ornor, C SW SE sec. 31-17-2e. Drlg. 1,295 ft.
Ross Oil Co. No. 1 Bailey, SE cor. sec. 22-15-6. Cleveland 2,205-53 ft., T.D.; est. 5,000,000 ft. dry gas; set 5⅛-in. at 2,190 ft. Drlg. plug.

Logan County

Shell Pet. Corp. et al No. 1 Waddle, SW SE NW sec. 36-15-4w. Set 12½-in. 295 ft.; T.D. 325 ft.

Noble County

Lincoln Oil Co. et al No. 1-A Neil, NE cor. sec. 15-23-2w. Wilcox 4,681 ft.; drlg. 4,876 ft.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Johnson, NW NW SE sec. 4-20-2w. Wilcox 5,306 ft.; packer froze at 5,260 ft.; drlg. out to 5,207 ft.; recemented.

Oklahoma County

Sunray Oil Co. No. 1 Dickson, NW cor. sec. 17-11-1e. Dol. 6,275 (cor.) ft.; 1st Wilcox 6,339 ft.; 2nd Wilcox 6,461 ft.; T.D. 6,524 ft.; D.&A.

Okfuskee County

Lease Investment Co. No. 1 Reneau, SW SE NW sec. 4-13-11. Wilcox 3,162-69 ft.; T.D.; flw. 210 bbls. in 16 hrs.; 43.3-grav. oil.; comp.
F. W. Merrick No. 1 Mackey, NE NE SW sec. 29-11-10. Spd.
Riverland Oil Co. No. 1 Board, NE NW SE sec. 10-13-10. H.F.W. 2,260 ft.; drlg. 2,384 ft.

Osage County

Norbla Oil Co. No. 1 Osage, SE cor. sec. 35-23-6. Drlg. 830 ft.

Pawnee County

Carter Oil Co. No. 1 Wells, C E½ SE NW sec. 30-23-5. Drlg. 1,760 ft.

Pontotoc County

Boettcher O. & G. Co. No. 1 Cann, SE NW NE sec. 25-4n-7e. Crom. 2,835 ft.; T.D. 3,170 ft.; S.D.
Clark Drlg. Co. et al No. 1 Richardson, SE SE NW sec. 30-4-8. Mayes 3,730 ft.; Woodford 3,812 ft.; Hunton 3,920 ft.; drlg. 4,065 ft.
W. A. Delaney et al No. 1 Payton, NE NE SE sec. 1-4-7. O.W.D.D.; Crom. 2,648 ft.; drlg. 3,245 ft.

ARKANSAS

Ashley County

Phillips Pet. Co. No. 1 Godfrey, C S½ SW NW sec. 18-17-9. Drlg. 60 ft.

Clark County

W. M. Martin No. 1 Coke, NW sec. 14-10-20. Drlg. 1,625 ft.

Columbia County

Robt. Keene et al No. 1 Runyon, NW SE NE sec. 1-16s-21w. R.U.

Crittendon County

Stanley Oil Corp. No. 1 Danner, C sec. 18-8n-9e. 12-in. cmt. 125 ft.

Hempstead County

Shephard & Toud et al No. 1 Smith, NW SW SE sec. 11-11-25. Drlg. 1,920 ft.

Lafayette County

Nivia Oil Corp. No. 1 DeLoy, SW SW SE sec. 19-15s-24w. T.D. 4,503 ft.; D.&A.

Miller County

E. H. Moore No. 2 Dale, 660 ft. N and W, C sec. 24-15-26. Drlg. 7,270 ft.
Standard Oil Co. No. 1 Sarah Harvey, SW SW SW sec. 33-16s-26w. Drlg. 5,316 ft.

Miller County—Rodessa

Allred & Allred No. 1 E. A. Rector, SE W½ W½ sec. 16-20-28. Drk.
F. W. Burford No. 1 A. A. Capps, W½ sec. 14-20-28. Drk.
F. W. Burford No. 1 Easton, E½ SW SE sec. 11-20-28. M.I.M.
F. W. Burford No. 1-B Gerald, NE cor. sec. 15-20-28. R.U.
F. W. Burford No. 1 Perdue, SE NE SE sec. 11-20-28. Clearing loc.
Burnham & Manley No. 1 E. A. Rector, SE sec. 17-20-28. Drk.
Tony DeGrazier No. 1 E. A. Rector, SE cor. sec. 17-20-28. Drk.
H. L. Hunt No. 1 Wommack, SE sec. 10-20-28. M.I.M.
W. M. Layton No. 1 Terry, NW cor. sec. 14-20-28. 16-in. cmt. 30 ft.
McClanahan et al No. 1 W. L. Capps, sec. 11-20-28. T.D. 6,103 ft.; comp.; flw. 451 bbls. 9 hrs.;
McClanahan et al No. 2 A. A. Capps, SW sec. 11-20-28. M.I.M.

Nevada County

Benedum & Trees No. 1 Grove, sec. 10-14-20. P.B. from 6,133 ft. to 2,175 ft.; W.O.C.S.
W. S. King No. 1 Wynn, sec. 6-13-20. T.D. 3,120 ft.; D.&A.
Walter Lowd No. 1 T. S. Grayson, SW SW SE sec. 12-14-20. T.D. 2,409 ft.; D.&A.
H. H. Taylor No. 1 Joe McCree, NW SW NW sec. 21-13-19. T.D. 3,004 ft.; D.&A.

Ouachita County

Copenhaver Oil Corp. No. 1 J. E. Evans, sec. 20-11-19, 10-in. cmt. 103 ft.

Pulaski County

A. L. Kitselman No. 2 Kitselman, Jr., SE SE SW sec. 2-1s-13e. S.D. 844 ft.

Union County—Schuler

E. M. Jones et al No. 1 First Natl. Bank, NW NE NE sec. 19-18-17. Drlg. 3,895 ft.
E. M. Jones et al No. 1 K. Gallagher, NW SW sec. 19-18-17. R.U.
E. M. Jones et al No. 1 Marine Oil Co. fee, NW SW SE sec. 17-18-17. R.U.
Ed. M. Jones et al No. 1 C. H. Murphy, NW lot 6 NW¼ sec. 19-18-17. R.U.
Ed. M. Jones et al No. B-1 Murphy Land Co., SW SE NE sec. 13-18-18. Drlg. 900 ft.
Lion Oil Rfg. Co. No. A-1 M. D. Justiss, NE NW NE sec. 19-18-17. Drlg. 2,000 ft.
Lion Oil Co. No. B-1 Edna Morgan, SW NW SE sec. 18-18-17. P.B. 5,827 ft.; flw. and tstg.; 45 B.P.H.
Lion Oil Ref. Co. No. 2-A Edna Morgan, NW NE SW sec. 18-18-17. Drlg. 3,420 ft.
Lion Oil Ref. Co. No. 3-A Edna Morgan, SE Lot 1, SW sec. 18-18-17. Drk.
Lion Oil Ref. Co. No. 2-B Morgan, NE NW SE sec. 18-18-17. Drlg. 4,209 ft.
Marine Oil Co. No. 1 fee, NW SW SW sec. 17-18-17. Drlg. 3,185 ft.
Marine Oil Co. No. 1 E. M. Jones, SW NW SW sec. 17-18-17. Drlg. 100 ft.
Phillips Pet. Co. No. 1 E. Gan, SW SE NE sec. 18-18-17. Drlg. 900 ft.
Phillips Pet Co. No. 2 E. Gan, SE SW NE sec. 18-18-17. Drlg. 855 ft.
Phillips Pet. Co. No. 1 M. Justiss, SE Lot 6, NW sec. 18-18-17. Drlg. 4,767 ft.
Phillips Pet. Co. No. 2 M. Justiss, NE Lot 2, SW sec. 18-18-17. Drlg. 4,028 ft.
Alice Sydney Oil Co. No. 1 Powledge Est., SW SW SE sec. 7-18-17. Drlg. 5,240 ft.
Alice Sydney Oil Co. No. 2 Morgan, sec. 18-18-17. Drlg. 3,120 ft.

Union County—Other

Sklar Oil Corp. No. 1 W. T. Fitzgerald, SW NW SW sec. 8-18-15. 7-in. cmt. 2,098 ft.; W.O.S.R.; T.D. 2,140 ft.
W. D. Wingfield et al No. 1 So. Kraft Corp., SW NE sec. 18-16-14. T.D. 3,636 ft.; S.D. rig repair.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Blackwell O. & G. Co. No. 3 Neugent, sec. 8-23-16. Cg. 6,810 ft.
Clark Oil Corp. No. 2-A Sharp, SW SE sec. 4-23-16. Drlg. 3,328 ft.
Holcomb & Thomasson No. 1 Dillon, SE sec. 4-23-16. Drk.
J. E. Jones No. 1-A Parker, SW cor. sec.

4-23-16. T.D. 6,027 ft.; 3,000 ft. in hole; W.O.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 11,400 ft.

R. W. Norton No. 6 Starke, NE sec. 17-23-16. 6-in. 5,890 ft.; T.D. 5,932 ft.; W.O.C.S.

R. W. Norton No. 11 Starke (a), NE sec. 17-23-16. Drlg. 3,013 ft.

Roberts Drlg. Co. No. 1 E. G. Finley, NW sec. 1-23-16. Loc.

Standard Oil Co. No. 2 L. J. Kaempfer, NE NW SW sec. 9-23-16. Comp.; flw. 103 B.P.D.; T.D. 5,988 ft.

Standard Oil of La. No. 4 Sarah Kaempfer, NE sec. 9-23-16. Drlg. 2,455 ft.

Standard Oil of La. No. 2 J. W. Farmer, NW sec. 7-23-15. Drlg. 3,100 ft.

Standard Oil of La. No. 1-B Emma J. Parker, SE NE sec. 9-23-16. Drlg. 3,100 ft.

Standard Oil of La. No. 2 O. A. Zyiks, NE SE sec. 9-23-16. Drlg. 2,988 ft.

Surf Oil Co. No. 1 Allison, NE sec. 8-23-16. T.D. 6,050 ft.; will acidize.

Surf Oil Co. No. 1 Upchurch, NE sec. 8-23-16. 7-in. 5,935 ft.; T.D. 6.036 ft.; W.O.C.S.

United Gas No. 7 fee 574, SW NW sec. 16-23-16. Comp.; flw. 14 B.P.H.; T.D. 5,940 ft.

United Gas No. 8 fee 574, NW cor. sec. 16-23-16. Drk.

United Gas No. 11 Pitts Unit, SE NW sec. 13-23-16. T.D. 6,038 ft.; tstg. dry; W.O.

United Gas No. 4 Starke, SE sec. 8-23-16. Drlg. 3,000 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSota O. & G. Co. No. 1 Ashley, SW SE sec. 15-16-10w. Drlg. 5,250 ft.

Hunt Oil Co. et al No. 1 Bodcaw, SE sec. 30-14-5w. Drlg. 6,278 ft.

Lide & Greer No. 2 Davis, NW NE sec. 12-16-5w. Drlg. 3,440 ft.

McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. Fsg. 2,921 ft.

Bossier Parish

Arkansas-La. No. 2-B Werner, NE cor. sec. 7-17-11. 7-in. 4,959 ft.; T.D. 5,056 ft.; W.O.C.S.

Premier Inv. Co. No. 42 Wyche, sec. 14-19-11. Pump 20 B.P.D.; T.D. 370 ft.

Producers O. & G. No. 1 R. Johnson, NE sec. 5-17-11. Fsg. 4,900 ft.

Triangle Drlg. Co. No. 1 C. Howell, NW sec. 26-17-12. Cg. 5,155 ft.

United Gas No. 1 S. L. Herold, 660 ft. S and W NE sec. 31-17-4. Cg. 5,236 ft.

United Gas No. 1-A Jeter Unit, SW sec 24-17-12. Comp.; flw. 21,000,000 gas; T. D. 5,148 ft.

United Gas No. 3 L. Schmitt, NW sec. 14-17-12. Drlg. 3,068 ft.

Caddo Parish

J. G. Abney No. 1 Thigpen & Herold, NW SW sec. 15-21-16. 4-in. cmt. 1,795 ft.; T.D. 1,834 ft.

W. D. Ambrose No. 1 Pender, NW NE SW sec. 11-20-15. Comp.; flw. 40 B.P.D.; T.D. 2,215 ft.

W. D. Ambrose No. B-1 Pender, sec. 11-20-15, SW NW SW. Comp.; flw. 200 B.P.D.; T.D. 2,201 ft.

Calatex O. & G. No. 3-A Agurs, SW cor. sec. 6-16-6. W.O.S.R.; T.D. 2,483 ft.

W. D. Chew No. 4 U. S. Govt. O.W.D.D.; sec. 5-20-16. 4-in. cmt. 2,331 ft.; W.O. C.S.

T. B. Donnell No. 4 Stokeley, SW sec. 5-20-16. Comp.; flw. 12 B.P.D.; T.D. 958 ft.

T. B. Donnell No. 5 Stokeley, SW sec. 5-20-16. 7-in. cmt. 948 ft.

W. C. Feazel No. 1 Pitts, SE NE sec. 8-23-16. Drlg. 4,000 ft.

C. L. Ferguson et al No. 1 Cooney, sec. 35-21-16. T.D. 1,645 ft.; S.D., rig rep.

Hancock & Uhlman No. 1 Heinman, sec 16-21-16. Comp.; pump 15 B.P.D.; T.D. 1,009 ft.

W. J. Hunter et al No. 1 Stoer, NW SW NE sec. 10-15-15. Drlg. 6,190 ft.

Marine Exp. Co. No. 1 Herold, NW sec. 10-21-16. S.D. 385 ft.; water.

Orr et al No. 1 Acme Fee, Cen. sec. 13-21-16. Cg. 950 ft.

Tom Pappas No. 2 Spell, SW sec. 28-21-15. Comp.; flw. 200 B.P.D.; T.D. 1,652 ft.

Frank Perkins No. 1 Stiles, SW SW sec. 33-21-16. Drlg. 944 ft.

Prairie River Synd. No. 1 Hutchinson, SW NW sec. 15-15-12. Drlg. 7,970 ft.

J. J. Shulman No. 1 Bickham, NE sec. 28-21-5. T.D. 1,645 ft.; rg. 6-in. csg.

Stanolind O. & G. Co. No. 124 Dillon, NW SE sec. 14-21-15. Drk.

Stanolind O. & G. Co. No. 12 Slattery, NE NW sec. 27-21-15. Comp.; pump 25 B. P.D.; T.D. 1,667 ft.

Surf Oil Co. No. 1 Hyman, SE sec. 10-20-15. 10-in. 85 ft.

Surf Oil Co. No. 2 Self, SE NE SE sec. 10-20-15. Comp.; pump 50 B.P.D.; T.D. 2,204 ft.

R. G. Trippett & D.C.R.O. No. 1 School Bd., NE sec. 16-19-14. Drlg. 1,045 ft.

Claiborne Parish

Atlantic Rfg. Co. No. 2 F. B. King, W½ NE SE sec. 35-21-5. Drlg. 3,790 ft.

Atlantic Ref. Co. No. 3 King, E½ SE SE sec. 35-21-5. Loc.

Atlantic Ref. Co. No. 1 Tatum, N½ NE SE sec. 31-21-4. Loc.

J. B. Bond No. 1 H. E. Patton, W½ NW NW sec. 36-21-5. Comp.; flw. 341 bbls. 7 hrs.; T.D. 5,280 ft.

Gulf Ref. Co. No. 2 Henry, N½ NW NE sec. 31-21-4. 10-in. cmtd. 725 ft.

Hollifield & McFarland No. 2 M. Patton, W½ SW SE sec. 31-21-4. Drlg. 950 ft.

T. L. James & Co. No. 1 Baker, W½ SE NE sec. 25-21-5. T.D. 5,343 ft.; D.&A.

La. Lse. & Dev. Co. No. 1 R. D. McDon-ald, W½ NW NW sec. 25-21-5. Comp.; flw. 750 B.P.D.; T.D. 5,270 ft.

Love Bros. No. 1 J. J. Henry, S½ NE NE sec. 31-21-4. R.U.

Love Bros. No. 2 J. J. Henry, N½ NE NE sec. 31-21-4.

Lyons & Neely No. 1 Bean, W½ SE NE sec. 31-21-4. Drlg. 1,534 ft.

McMillian et al No. 2 Roberta Vaughn, N½ NW NE sec. 36-21-5. Comp.; flw. 512 bbls. 12 hrs.; T.D. 5,284 ft.

Magnolia Pet. Co. No. 2 English, S½ SW NE sec. 31-21-4. 7-in. 5,260 ft.; T.D. 5,281 ft.; W.O.C.S.

Magnolia Pet. Co. No. 3 English, N½ SE NW sec. 31-21-5. Drlg. 4,616 ft.

Magnolia Pet. Co. No. 4 English, N½ SW NE sec. 31-21-4. Loc.

Magnolia Pet. Co. No. 5 English, N½ NE NW sec. 31-21-4. Loc.

Magnolia Pet. Co. No. 2, H. E. Patton, SW sec. 36-21-5. Drlg. 5,311 ft.

C. R. Schuster et al No. 2 M. S. Patton, S½ NW NE sec. 1-20-5. Drlg. 5,040 ft.

Scouts Oil Co. No. 2 R. Vaughn, W½ NE NW sec. 36-21-5. Drlg. 3,800 ft.

Shreveport Oil Corp. No. 1 Edwards, NE sec. 16-20-5w. Drlg. 4,300 ft.

Standard Oil of La. No. 2 F. B. King, et al NE sec. 35-21-5w. Drlg. 1,200 ft.

J. C. Trippett Drlg. Co. No. 1 Aycock, N½ NE SE sec. 1-20-5. Drlg. 800 ft.

J. C. Tippett No. 2 H. E. Patton, sec. 36-21-5. Comp.; flw. 50 B.P.H.; T.D. 5,307 ft.

United Gas No. 2 Brownfield, 660 ft. N and E SW NW sec. 5-19-5w. Loc.

P. W. Woodruff No. 2-B McDonald, N½ NE NE sec. 36-21-5. 5-in. cmtd. 5,254 ft.; T.D. 5,277 ft.

P. W. Woodruff No. 1-A McDonald, N½ SE NE sec. 36-21-5. 5-in. cmtd, 5,218 ft.; T.D. 5,250 ft.

De Soto Parish

Grogan Oil No. 1-A Ramsey, sec. 36-11-11. T.D. 2,961 ft.; 7-in. cmtd. 2,931 ft.; W.O.C.S.

J. F. McMannan No. 1 Cook Ld. Co., SE sec. 16-16-11. S.D. 50 ft.

Arthur D. Robinson No. 1 Allison, NW sec. 17-14-13. Drlg. 20 ft.

R. M. Sundby No. 1 A. P. Garland, sec. 7-14-14. T.D. 5,548 ft.; D.&A.

Superior Oil Co. of Okla. No. 1 Joyner, SE NW SW sec. 28-11-12. T.D. 5,012 ft.; S.D.

Grant Parish

H. M. S. Corp. No. 1 McNeely, sec. 21-6n-3w. S.D. 2,190 ft.

Harvey Weir No. 1 Calfax Bk. & Tr. Co., NE NW sec. 15-7n-3w. 10-in. cmtd. 160 ft.; W.O.C.S.

Lincoln Parish

J. D. Carruthers No. 1 Aycock, N½ SW SW sec. 6-20-4. R.U.

B. O. D. C. and H. D. Easton No. 1 G. W. Dye, NE NE sec. 21-19-4w. Drlg. 5,700 ft.

Glassell & Glassell No. 1 Gray, SE sec. 16-20-3e. T.D. 5,620 ft.; D.&A.

Lyons & Neely No. 1 Aycock, S½ NW SW sec. 6-20-4. Drlg. 2,200 ft.

Lyons & Neely No. 1 Effie P. Taylor, S½ NW NW sec. 6-20-4. 5-in. 5,334 ft.; T.D. 5,368 ft.; W.O.C.S.

Red River Parish

John Droppleman No. 1 Wilson, SW sec. 23-13-11. Drlg. 400 ft.

Glassell & Whitehurst No. 1 LeLong, NE NW NE sec. 25-12-11. 13-in. cmt. 250 ft.

Perla Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. Drlg. 1,740 ft.

J. C. Prine No. 1 Haynes, SW sec. 20-13-10. 7-in. cmtd. 974 ft.; T.D. 974 ft.

J. D. Wadley No. 1 McClelland, SE NE sec. 24-13-11. Tstd. dry; T.D. 2,550; W.O.

Yandell & Rogers No. 4 Caspari, SW SE SW sec. 27-13-11. Drlg. 2,450 ft.

Sabine Parish

Ellis Prod. Co. No. 1 Wright, NW SW sec. 4-5-12. Drlg. 980 ft.

Odell Henson No. 1 Long Bell, SE NE SW sec. 5-8-13. S.D. 1,690 (1st hole junked and rig skidded).

Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. Drlg. 6,715 ft.

Perla Oil Co. No. 1 Brown, SE SW NW sec. 16-9-13. T.D. 1,557; acidized; Tstg.

Producers O. & G. No. 1 M. Gains, SW SE SE sec. 30-9-13. T.D. 2,100 ft.; D.&A.

Remine et al No. 1 4-L Co., SW SW sec. 7-5-12. R.U.

Roy Drlg. Co. No. 4 Burkett, SE NW SW sec. 10-9-13. Comp.; pump. 8 B.P.D.; T.D. 2,001 ft.

Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Windsor No. 1 H. Brown, NW SW NW sec. 16-9-13. T.D. 1,683 ft.; acid.; dry; W.O.

Windsor No. 1 M. Elliott, SE NE NW sec. 17-9-13. R.U.

Tensas Parish

Ark. Fuel Oil Co. No. 1 Hardwood, SE NW NW sec. 8-11-10e. Drlg. 2,640 ft.

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE sec. 30-12n-10e. T.D. 798 ft.; blew out after stng. 8 mo.; gauging 30,000,000 ft. gas and 10,000 bbls. wtr.; drld. out bridge and well blew out again and bridged over; T.D. 798 ft.; W.O.; T.D. 798 ft.; blew out again and bridged; cg. 951 ft.

Webster Parish

Magnolia No. 2 D. G. Cox, SW SE NE sec. 22-21-10. Drlg. 8,081 ft.

Magnolia Pet. Co. No. 2 G. W. Cole, NE NW NE sec. 27-21-10. Drlg. 7,190 ft.

Magnolia Pet. No. 6 Ira Cox, NE NE SE sec. 26-21-10. Drlg. 6,681 ft.

Magnolia Pet. Co. No. 2 A. J. McCook, SW sec. 22-21-10. Drlg. 5,080 ft.

Ohio Oil Co. No. 47 Bodcaw Acct. 2, SW SE sec. 15-21-10. Drlg. 2,230 ft.

Ohio Oil Co. No 2 R. M. Coyle, SE sec. 22-21-10. Comp.; flw. 375 B.P.D.; T.D. 8,503 ft.

Ohio No. 1 S. P. D. Coyle and W. Cox, SW SW SE sec. 23-21-10. Drk.

Ohio Oil No. 1 T. Crichton, Acct. No. 2, SE NE sec. 21-21-10. Drlg. 1,655 ft.

Ohio Oil No. 1 L. M. Gardner, NE sec. 22-21-10. Drlg. 7,954 ft.

Ohio No. 7-B R. L. Holloway, 586 ft. N. 756 ft. E line, sec. 23-21-10. Drlg. 4,450 ft.

A. G. Oliphant et al No. 1 Banks, NE NE sec. 34-21-10. Drk.

L. R. Skidmore No. 1 Barnett, NE NW SW sec. 29-17-9. T.D. 3,785 ft.; S.D.

Standard Oil of La. No. 1 E. L. Stewart, SE SE SE sec. 32-21-10. Drlg. 7,410 ft.

Woodley Pet. Co. No. A-2 L. C. Cox, SW NE sec. 22-21-10. Drlg. 6,795 ft.

Winn Parish

Georgetown Oil Co. No. 1 Tremont, sec. 19-10-1e. Drk.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Brookshire, sec. 66-12s-3e. 18⅝-in. csg. 237 ft.; 13⅜-in. csg. 2,125 ft.; drlg. sd. 7,212 ft.

Bay St. Elaine—Terrebonne Parish

F. J. LeBlanc et al No. 1 Wurzlow, sec. 17-22s-18e. T.D. 1,185 ft.

Texas Co. No. 14 State, sec. 20-22s-18e. T.D. 5,115 ft.; P.B. and sdtrkd.; drlg. salt 5,249 ft.

Bayou Cocotriz—Terrebonne Parish

Shell Pet. Corp. No. 1 Pelican, sec. 35-17s-15e. T.D. 10,325 ft.; hole cleaned; rmg.

Shell Pet. Corp. No. 2-B Realty Operators, sec. 18-17s-15e. 10¾-in. csg. 2,481 ft.; drlg. sd. 7,278 ft.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 Henry Hebert, sec. 18-12s-8w. Drlg. brkn. sd. 5,424 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 6 School Land, sec. 16-14s-13w. T.D. 4,068 ft.; R.U. to pump.

Magnolia-Humble O. & R. Co. No. 20 Cameron Meadows, sec. 21-14s-13w. R.U.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 3 Laws Realty Co., sec. 25-12s-9e. T.D. 8,860 ft.; fsg.

Pan American Ref. Co. No. 4 Laws Realty Co., sec. 30-13s-10e. Drk.

Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. T.D. 7,923 ft.; rec. 1,000 ft. of P.L.O. on D.S.T. 7,906-23 ft.; 7-in. csg. 7,906 ft.; T.D. 8,247 ft.; fsg.

Pan American Prod. Co. No. 1 Veeder, sec. 30-13s-10e. R.U.

Choctaw—Iberville Parish

Standard Oil Co. No. 10 Grove, sec. 52-9s-11e. Drlg. sdy. sh. 3,500 ft.

Standard Oil Co. No. 6 Gay, sec. 52-9s-11e. T.D. 5,490 ft.; prep. to sdtrk.

Darrow—Ascension Parish

Humble O. & R. Co. No. 10 Darrow. T.D. 6,920 ft.; P.B. 3,200 ft.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. R.U.

Dog Lake—Terrebonne Parish

Texas Co. No. 5 State, sec. 5-22s-16e. 10¾- in. csg. 1,505 ft.; T.D. 7,231 ft.; P.B. 6,310 ft.; to sdtkrk.; drlg. sh. 6,736 ft.

Fausse Point—Iberia Parish

Texas Co. No. 3 State, sec. 35-11s-8e. 10¾-in. csg. 1,245 ft.; drlg. sh. 4,203 ft.

Four Isle—Terrebonne Parish

Texas Co. No. 9 L.L.&E., sec. 24-21s-16e. Drlg. sdy. sh. 5,116 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 50 State, sec. 19-23s-20e. Drlg. 4,130 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 18 Castle, sec. 34-10s-12w. T.D. 7,404 ft.; 7-in. csg. 7,253 ft. tstg.

Union Sulphur Co. No. 15 Barbe, sec. 1 9s-8w. T.D. 6,730 ft.; P.B. 3,930 ft.; drlg. sdy. sh. and L. 6,712 ft.

Union Sulphur Co. No. 8 Castle, sec. 13-9s-8w. Spd.

Union Sulphur Co. No. 6 Kaufman, sec. 13-9s-8w. Spd.

Gueydan—Vermilion Parish

Pure Oil Co. No. 6 Mulney Investment Co., sec. 34-11s-1w. 10¾-in. csg, 1,049 ft.; drlg. sd. 3,212 ft.

Hackberry—Cameron Parish

Burton Oil Co. No. 2 Lewis, sec. 22-12s-10w. Drlg. sh. 3,800 ft.

Burton-Sutton Oil Co. No. 3 Vincent, sec. 22-12s-10w. Drlg. sh. 3,317 ft.

Emanon Oil Co. No. 1 Porter Ellender, sec. 21-12s-10w. Fsg. at 1,656 ft.

Stanolind O. & G. Co. No. 7 Carter and Sweeney, sec. 22-12s-10w. T.D. 4,322 ft.; stuck screen, reaming.

Stanolind O. & G. Co. No. 1-B Duhon, sec. 27-12s-10w. Drlg. 2,319 ft.

Stanolind O. & G. Co. No. 4 Duhon, sec. 22-12s-10w. 10¾-in. csg. 1,273 ft.; T.D. 4,574 ft.; 7-in. csg. 4,500 ft.; comp.; no gauge.

Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. 20-in. csg. 158 ft.; T.D. 7,672 ft.; fsg.

Stanolind O. & G. Co. No. 4 Lacey, sec. 27-12s-10w. R.U.

Stanolind O. & G. Co. No. 19 School Land, sec. 16-12s-10w. 10¾-in. csg. 1,942 ft.; drlg. 2,312 ft.

Texas Co. No. 22-B State, Twp. 12s-9w. Drlg. sh. 7,328 ft.

Union Sulphur Co. No. 9 Doiron, sec. 37-12s-10w. Drlg. sdy. sh. 4,617 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Banta, sec. 40-13s-9e. 9⅝-in. csg. 7,030 ft.; T.D. 9,765 ft.; drill stem stuck.

Herton Oil Co. No. 7 Carter, sec. 38-13s-9e. Drlg. sh. 7,812 ft.

Herton Oil Co. No. 8 Carter, sec. 44-13s-9e. Drlg. 1,587 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 26 Heyd, sec. 40-13s-9e. R.U.

Jennings—Acadia Parish

Frank W. Bennett et al No. 1 Brethern and Christ Church, sec. 41-7s-2w. Drlg. sd. 856 ft.

W. T. Burton Oil Co. No. 2 J. J. Roboria, sec. 42-9s-2w. Drlg. sh. and L. 6,004 ft.

Cosmo Pet. Co. No. 1 Jenning Heywood, sec. 41-9s-2w. Drlg. sh. 2,312 ft.

Glassell No. 3 Trushell, sec. 42-9s-2w Spudded.

Stanolind O. & G. Co. No. 11 Crowley, sec. 48-9s-2w. Spudded.

Stanolind O. & G. Co. No. 18 Houssiere-Latrielle, sec. 47-9s-2w. 8⅝-in. csg. 5 358 ft.; 6⅝-in. csg. 7,005 ft.; T.D. 7,980 ft.; P.B. 6,679 ft.

Superior Oil Prod. Co. No. 2 Iowa-Jen-nings, sec. 41. Drlg. sd. 6,581 ft.

Superior Oil Prod. Co. No. 3 Jennings, sec. 42-9s-2w. T.D. 6,754 ft.; 7-in. csg. 6,530 ft.; I.P. 660 B.P.D.

Superior Oil Co. No. 5 Leckelt, sec. 42-9s-2w. R.U.

Superior Oil Co. No. 6 Leckelt, sec. 42-9s-2w. Drlg. L. 4,804 ft.

Superior Oil Co. No. 2 Moresi, sec. 41-9s-2w. R.U.

Superior Oil Prod. Co. No. 4 Leckelt, sec. 42-9s-8w. T.D. 6,790 ft.; run Schlumberger.

Superior Oil Co. No. 1 Moresi, sec. 41-9s-2w. Drlg. sh. 6,341 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Wurzlow, sec. 32-19s-19e. R.U.

Lafitte—Jefferson Parish

Texas Co. No. 4 Lafitte (O.W.D.D.), sec. 20-17s-24e. Drlg. sdy. sh. 9,827 ft.

Texas Co. No. 2 Milling, sec. 20-17s-24e. Dredging canal.

Texas Co. No. 7 Rigolet, sec. 29-17s-24e. T.D. 10,406 ft.; 7⅝-in. csg. 10,406 ft.

Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. Drlg. sh. 7,659 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 7 Lafourche, sec. 12-18s-25e. Drlg. sd. 3,050 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 17 State, sec. 17-23s-18e. Drlg. sd. 4,845 ft.

Leesville—Lafourche Parish

Texas Co. No. 54 Leesville, sec. 27-21s-22e. T.D. 4,161 ft.; run Schlumberger survey.

Lockport—Cameron Parish

Magnolia Pet. Co. No. 6 Freeburg, sec. 9-10s-9w. T.D. 6,485 ft.; hole cleaned, drlg. ahead.

New Iberia—Iberia Parish

Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. S.D. 4,962 ft.; salt; P.B. and sdtrkd.; drlg. sh. 5,212 ft.

Texas Co. No. 3 Bryant, sec. 25-12s-7e. Drlg. 2,312 ft.

Wm. Hellis No. 9 Bernard, sec. 54-12s-7e. Drlg. sh. 4,429 ft.; no report.

Wm. Hellis No. 5 Bullock-Burke, sec. 52-12s-7e. T.D. 5,147 ft.; 7-in. csg. 5,065 ft. comp.; no gauge.

Texas Co. No. 3 Duhe, sec. 26-12s-7e. Drlg. sh. 3,937 ft.

Texas Co. No. 6-B Hanzen, sec. 54-12s-7e. T.D. 4,846 ft.; S.D.

Texas Co. No. 1 Schwing, sec. 71-12s-7e. Drlg. sh. 3,612 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 6 Kratzer, sec 11-9s-4w. T.D. 8,704 ft.; perf. csg. 8,706-08 ft.; installing flow valves.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. T.D. 6,708 ft.; P.B. 5,373 ft.; T.D. 7,004 ft., salt; abd.

South Roanoke—Jeff Davis Parish

Union Sulphur Co. et al No. 1 T.R.S. Farms Co., sec. 23-10s-4w. 12½-in. csg. 1,835 ft.; drlg. sdy. sh. 7,575 ft.

Starks—Calcasieu Parish

Turnbull et al No. 2 Industrial Lbr. Co., sec. 19-9s-12w. Drlg. sh. 4,212 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 846 fee, sec. 29-9s-10w. S.W. sd. 4,053 ft.; no report.

Union Sulphur Co. No. 847 fee, sec. 29-9s-10w. Drlg. sh. 2,530 ft.

St. Martinsville—St. Martin Parish

Tide Water Oil Co. No. 1-C Smedes, sec. 57-11s-6e. T.D. 9,645 ft.; heaving sh.; drill stem stuck.

Tide Water Oil Co. No. 4 Smedes, sec. 57-11s-6e. Drlg. sd. 5,580 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Gullery, sec. 34-7s-2w. Drlg. sh. and L. 7,437 ft.
Continental Oil Co. No. 2-B Veronie, sec. 28-7s-2w. R.U.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 1-A Harang, 60 ft. due west of No. 1 Harang. T.D. 5,415 ft.; 7-in. csg. 5,396 ft.
Pan American Prod. Co. No. 7 Harang, sec. 7-17s-20e. Drlg. sh. 4,457 ft.
Pan American Prod. Co. No. 8 Harang, sec. 9-17s-20e. Drlg. sh. 1,874 ft.
Pan American Prod. Co. No. 9 Harang, sec. 9-17s-20e. R.U.

Vinton—Calcasieu Parish

Katina Oil Co. No. 1 Vincent, sec. 34-10s-12w. 8-in. csg. 1,108 ft.; drlg. plug.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,426 ft.; left 900 ft. of D.S. in hole.
Humble O. & R. Co. No. 1 Floyd Williams sec. 34-8s-1e. T.D. 8,037 ft.; P.B. 7,404 ft.; sdtrkd. 7,642 ft.; T.D. 8,106 ft.; sd. S.O.; recovering 12 stands of oil; core ahead 8,235 ft.
J. G. Mayo et al. No. 1 Bank of Commerce sec. 19-7s-1e. 10¾-in. csg. 1,710 ft.; drlg. sh. 7,483 ft.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg S.W.; S.D.

Cameron Parish

Humble O. & R. Co. No. 1 Hanzen, sec. 5-12s-6w. 13⅜-in. csg. 3,046 ft.; drlg. sh. 8,144 ft.
Pure Oil Co. No. 2 State, sec. 14-13s-3w. Driving piling.
Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. S.D. 2,611 ft.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State-Gulf of Mexico, 3,800 ft. W. 6,200 ft. S of SE cor. of irregular sec. 4-15s-8w. Driving piling.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 A. R. Anneson, sec. 33-4s-1w. Abd. 4,802 ft.
Cavalier Oil Co. No. 1 Elliott sec. 3-9s-2e. 10¾-in. csg. 1,950 ft.; T.D. 6,115 ft.; drill stem stuck.
Louisiana Crusader Oil Co. No. 2 Louisiana State. 10¾-in. csg. 2,182 ft.; core wtr. sd. 6,526 ft.

East Feliciana—Wild

Koch et al No. 1 Andrews, sec. 69-2s-3e. 10-in. csg. 1,086 ft.; drlg. sh. 4,406 ft.

Evangeline Parish

Continental Oil Co. No. 1 Tate, sec. 44-3s-2e. Drlg. sh. 3,330 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; set 10¾-in. csg. 5,095 ft.; top oil sd. 6,915 ft.; 7-in. csg. 6,930 ft.; cd. salt 7,059-60 ft.; P.B. 5,500 ft.; cored sd. showing oil 6,626-28 ft.; coring ahead. no report.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 2,461 ft.; P.B. and strkd.; sh. 900 ft.; no report.

Jefferson Davis Parish

Louisiana Crusader Oil Corp. No. 1 Langley, sec. 36-7s-5w. T.D. 7,450 ft.; P.B. to sdtrk. at 6,868 ft.; T.D. 9,045 ft.; 7-in. csg. 9,026 ft.; perf. csg.; tstg.
Stanolind O. & G. Co. No. 2-B Calcasieu Natl. Bank, sec. 28-7s-4w. 13⅜-in. csg. 1,950 ft.; drlg. sh. 8,515 ft.

Lafourche Parish

Gulf Oil Corp. No. 3 State, sec. 36-23s-21e. R.U.
Pohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. 9⅝-in. csg. 8,384 ft.; oil sd. 9,-391-9,406 ft.; T.D. 9,406 ft.; 7-in. csg. 9,406 ft.; perf. csg. 9,365-72 ft.; I.P. 425 B.P.D.; 11/64-in. ck.

Plaquemines Parish

Tide Water Oil Co. No. 3 Manhattan Fruit Co., sec. 26-21s-30e. Drlg. sh. 7,001 ft.

Rapides Parish

R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. S.D. 5,236 ft.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sd. and sh. 6,560 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; drlg. sd. and sh. 3,428 ft.

St. Charles Parish

Amerada Pet. Corp. and La. Ld. & Expl. Co. No. 1 State, sec. 13-15s-20e. Cd. oil sd. 6,828-95 ft.; T.D. 7,124 ft.; 9⅝-in. csg. 7,118 ft.; drlg. sh. 7,595 ft.

St. Landry Parish

Gulf Oil Corp. No. 1 Haas & Hirsch, sec. 12-6s-7e. Drlg. sd. 5,383 ft.

St. Martin Parish

Geo. E. Lilly et al No. 1 Martin, sec. 32-9s-7e. Top salt 4,293 ft.; T.D. 4,450 ft.; S.D.
Texas Co. No. 3 State, sec. 14-10s-9e. cmtd. on bttm.; T.D. 8,208 ft.; top salt 8,175 ft.; P.B. 7,600 ft.; top of cmt. plug 7,674 ft.; sdtrkd.; drld. into old hole at 7,800 ft.; P.B. 7,652 ft.; sidetrack 7,794 ft.; recovered mud on drill stem 7,826-50 ft.; cored to 7,852 ft.; make drill stem test; no report.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. T.D. 10,975 ft.; 7⅝-in. csg. 18-in. csg. 101 ft.; T.D. 12,261 ft.; blew out; caught fire; burned for 1 hr. and hole bridged; circulating mud and cleaning hole.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. Drlg. sh. 10,537 ft.

Vernon Parish

George Greer et al No. 1 Commercial Natl. Bank, sec. 9-1s-8w. R.U.

TEXAS

Week Ending July 3

GULF COAST FIELDS

Hastings—Brazoria County

Humble O. & R. Co. No. 13 Brown. Drlg. sh. 4,855 ft.
Humble O. & R. Co. No. 1 Haden. Drlg. sh. 4,275 ft.
Humble O. & R. Co. No. 1 Knack, Perry & Austin Sur. Cg. sd. 6,111 ft.
Humble O. & R. Co. No. 1 W. H. Schindler, H.T.&B. Sur. No. 30. Drlg. sh. 4,-278 ft.
Stanolind O. & G. Co. No. 3 R. L. Autrey, H.T.&B. Sur. No. 37. T.D. 6,080 ft.; 7-in. csg. 5,916 ft.; I.P. 647 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 4 Autrey, H. T.&B. Sur. No. 37. R.U.
Stanolind O. & G. Co. No. 4-A Avitts, A.C H.&B. Sur. No. 1. Drlg. sh. 5,760 ft.
Stanolind O. & G. Co. No. 1 Barnett. R.U.
Stanolind O. & G. Co. No. 4 Blount. Drlg. sh. and L. 3,568 ft.
Stanolind O. & G. Co. No. 2 Mary Condon, H.T.&B. Sur. No. 29. 10¾-in. csg. 1,644 ft.; T.D. 6,080 ft.; 7-in. csg. 5,-912 ft.
Stanolind O. & G. Co. No. 3 Curkett. Drlg. sh. 1,720 ft.
Stanolind O. & G. Co. No. 4 Curkett, H.T. &B. Sur. No. 30. T.D. 6,080 ft.; 7-in. csg. 5,808 ft.; I.P. 666 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 8 Curkett, H. T.&B. Sur. No. 35. T.D. 6,080 ft.; 7-in. csg. 5,998 ft.; I.P. 605 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 1 DeWitt. R.U.
Stanolind O. & G. Co. No. 10 Drake, H. T. &B. Sur. No. 36. Drlg. sh. 5,930 ft.
Stanolind O. & G. Co. No. 4 Edwards. Drlg. sh. 4,252 ft.
Stanolind O. & G. Co. No. 4 Fendo. T.D. 1,250 ft.; rng. sur. csg.
Stanolind O. & G. Co. No. 6 Emil Grote, A.C.H.&B. Sur. Drlg. sh. 5,337 ft.
Stanolind O. & G. Co. No. 1-C Heram Moore, R. A. Magle Sur. Drlg. sh. 3,-178 ft.
Stanolind O. & G. Co. No. 4 Hutchinson. Drlg. sd. 2,140 ft.
Stanolind O. & G. Co. No. 2 McKibben, H.T.&B. No. 29. 10¾-in. csg. 1,221 ft.; drlg. sh. 5,292 ft.
Stanolind O. & G. Co. No. 7 Laura Shaw, H.T.&B. Sur. No. 36. Drlg. sh. 4,612 ft.
Stanolind O. & G. Co. No. 10 Steve Paul. T.D. 6,080 ft.; run csg.
Stanolind O. & G. Co. No. 11 Steve Paul, A.C.H.&B. Sur. T.D. 6,080 ft.; 7-in. csg. 5,952 ft.
Stanolind O. & G. Co. No. 12 Paul, A.C.H. &B. Sur. Drk.
Stanolind O. & G. Co. No. 1 Schaefer. T.D. 6,080 ft.; 7-in. csg. 6,003 ft.; I.P. 227 bbls. in 8¼ hrs.
Stanolind O. & G. Co. No. 7 Shaw. Cg. 5,703 ft.
Stanolind O. & G. Co. No. 1 Thornton. T.D. 6,080 ft.; 7-in. csg. 5,976 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 Stevens, J. W. Hall Sur. R.U.
Gulf Oil Corp. No. 2 Baker, J. W. Hall Sur. R.U.
Gulf Oil Corp. No. 4-A Wilkes and Smith, J. W. Hall Sur. T.D. 6,375 ft.; 7-in. csg. 6,346 ft.; flwd. 80 bbls. in 12 hrs.; ⅝-in. ck.; S.I.
Gulf Oil Corp. No. 2-A Wood, J. W. Hall Sur. Drlg. sh. 6,086 ft.

Manvel—Brazoria County

Texas Co. No. 25 B. W. T. Belcher, H. N. Little Sur. 10-in. csg. 1,176 ft.; drlg. sh. 3,430 ft.
Texas Co. No. 30 H.O.F. A.C.H&B. Sur. T.D. 5,687 ft.; 7-in. csg. 5,660 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Larsen, C. Breen Sur. R.U.
Harrison and Abercrombie No. 4 Bernard River Ld. and Development Co., Charles Breen Sur. 13⅜-in. csg. 1,405 ft.; 9⅝-in. csg. 7,005 ft.; T.D. 10,408 ft.; 7-in. csg. 10,400 ft.; cg. sd. and sh. with oil odor 10,501 ft.

Sandy Point—Brazoria County

Stanolind O. & G. Co. No. 1 Fite, D. Talley Sur. Spd.

Calhoun—Heyser—Victoria County

George Echols No. 5 Bennett, J. Galban Sur. 10¾-in. csg. 636 ft.; drlg. sh. 5,510 ft.
Humble Oil & Plymouth Oil Co. No. 8 E. H. Welder, J. M. Rios Sur. Drlg. sdy. sh. 4,868 ft.
Humble O. & R. Co. No. 1 P. H. Marshall, A. Sisneros Sur. Drlg. 930 ft.
Humble O. & R. et al No. 15-B P. H. Welder, A. Sisneros Sur. T.D. 5,480 ft.; W.O.C.
Humble O. & R. Co. No. 9 E. H. Welder, J. M. Rios Sur. Drlg. 1,728 ft.
Normandie Oil Co. No. 1 J. G. Cook, A. Sisneros Sur. R.U.
Portilla Drilling Co. No. 8-C P. H. Welder, A. Sisneros Sur. Drlg. sh. 4,887 ft.

Anahuac—Chambers County

Gulf Oil Corp. No. 2 Pommer, sec. 40, H &T.C. Sur. Drlg. sh. and L. 4,530 ft.
Humble O. & R. Co. No. 8 Gripon. T.D. 7,095 ft.; W.O.C.
Humble O. & R. Co. No. 9 Johnson, H.& T.C. Sur. Drlg. sh. 4,730 ft.
Humble O. & R. Co. No. 5 Marshall, sec. 50, H.&T.C. Sur. T.D. 7,080 ft.; I.P. 722 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1-D Middleton, sec. 116, H.T.&B. Sur. Spd.
Humble O. & R. Co. No. 5 Shaver. Drlg. 5,240 ft.

Cotton Lake—Chambers County

Salt Dome Oil Co. No. 2-A Lawrence, S. Barrow Sur. T.D. 6,518 ft.; 7-in. csg. 6,-512 ft.; I.P. 527 B.P.D.; ¼-in. ck.
Salt Dome Oil Corp. and Gulf Oil Corp. No. 1 A. B. Lawrence, B. Winfree Sur. 9⅝-in. csg. 1,169 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 H. O. Acom, H.T.&B. Sur. No. 23. 18⅝-in. csg. 91 ft.; T.D. 8,795 ft.; D.S. stuck.
Sun Oil Co. No. 1 Jackson, Yarbo Sur. Drlg. sh. 8,043 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 3 Middleton, Carroll Sur. R.U.
Sun Oil Co. No. 4 Chambers, M. A. Carroll Sur. T.D. 6,586 ft.; run csg.

Big Creek—Fort Bend County

Barnett Pet. Corp. No. 2 J. H. P. Davis B. Nickson Sur. T.D. 3,080 ft.; P.B. and sdtrkd.; T.D. 3,729 ft.; tstg.
Gulf Oil Corp. No. 76 Davis, M. Young Sur. T.D. 2,764 ft.; 7-in. csg. 2,725 ft.; tstg.

Boling—Fort Bend County

Mackhank Oil Co. No. 6-C E. C. Farmer, A. Scott Sur. R.U.

Blue Ridge—Fort Bend County

Telshaw-Reese and Echelson No. 1 Blakely, E. Drew Sur. R.U.

Orchard—Fort Bend County

Gulf Oil Corp. No. 52 Moore, James Frazier Sur. Cg. sd. 4,312 ft.
Gulf Oil Corp. No. 53 Moore, J. Frazier Sur. Drlg. sh. 6,137 ft.

Sugarland—Fort Bend County

Strake Pet. Co. No. 1 Deathridge, E. Alcorn Sur. Drlg. 2,300 ft.

Dickinson—Galveston County

Atlantic Ref. Co. No. 1 Lippman, W. G. Banks Sur. T.D. 8,115 ft.; 7-in. csg. 8,-109 ft.; I.P. 679 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 19-A Maco Stewart, W. K. Wilson Sur. T.D. 8,984 ft.; 7-in. cs⅛. 8,962 ft.; perf. csg. 8,565-75 ft.; tstd. gas and S.W.; P.B. 8,419 ft.; comp. for gas well.
Humble O. & R. Co. No. 20-A Stewart, W. K. Wilson Sur. Drlg. sh. 5,660 ft.
Humble O. & R. Co. No. 1-C Stewart, W. K. Wilson Sur. R.U.
Pure Oil Co. No. 2-B Shelor, W. G. Banks Sur. T.D. 8,120 ft.; 7-in. csg. on bttm.
Stanolind O. & G. Co. No. 7 State. 13⅜-in. csg. 2,013 ft.; T.D. 6,472 ft.; 9⅝-in. csg. 6,090 ft.; drlg. sh. and L. 8,419 ft.
Turman Oil Co. No. 2 Stewart, W. K. Wilson Sur. T.D. 8,792 ft.; run csg.

High Island—Galveston County

Stanolind O. & G. Co. No. 62-A Cade, M. Fitzsimmons Sur. Cg. sh. 5,815 ft.
Stanolind O. & G. Co. No. 1 C. E. Smith, M. Dunman Sur. Drlg. 1,512 ft.
Stanolind O. & G. Co. No. 15-A Smith, M Dunman Sur. Drlg. sh. 6,137 ft.

Batson—Hardin County

Dee-Tee Drlg. Co. No. 1 Melhome, J. Melhome Sur. T.D. 3,493 ft.; reaming to set csg.

Silsbee—Hardin County

Humble O. & R. Co. No. 1 Kirby, G. W. Brooks Sur. T.D. 6,989 ft., S.W. sd.; 5½-in. csg. 6,986 ft.; tstd. gas and oil; reset screens; tstg.
Republic Prod.-Houston Oil Co. No. 16 Brooks, G. W. Brooks Sur. T.D. 6,915 ft.; 7-in. csg. 6,898 ft.; comp. for gas well.
Republic Prod. Co.-Houston Oil Co. No. 13 Brooks, T.D. 6,980 ft.; 7-in. csg. 6,975 ft.; I.P. 275 B.P.D.; ⅞-in. ck.
Republic Prod. Co.-Houston Oil Co. No. 17 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,714 ft.; cd. sd. 6,811-15 ft.

Bammel—Harris County

Geo. Lawrence No. 2 Zapp, J. Farwell Sur. R.U.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 Candelari O.W.D.D.; cutting and pulling drill pipe to workover.

Goose Creek—Harris County

Bob Foster No. 1 Esenhour, Wm. Scott Sur. T.D. 2,741 ft.; tstg.

Pierce Junction—Harris County

Gulf Oil Corp. No. 13-C Cain, J. Hamilton Sur. Drlg. sh. 3,512 ft.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 Bennett, Unit 13, H.T.&B. Sur. No. 6. 16-in. csg. 90 ft. T.D. 4,800 ft.; 6⅝-in. csg. 4,673 ft.; I.P. 224 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 2, Dist. No. 23. T.D. 4,133 ft.; P.B. 2,200 ft.; T.D. 4,062 ft.; 5¾-in. csg. 4,031 ft.; killed; prep. to P.B.; fsg. for screen.
Stanolind O. & G. Co. No. 2, Drlg. Dist. No. 7. R.U.
Stanolind O. & G. Co. No. 2, Dist. 20. R.U.
Stanolind O. & G. Co. No. 7 First Natl. Bank. T.D. 1,469 ft.; run 9⅝-in. csg.
Texas Co. No. 4 Hillegiest, J. House Sur. R.U.

Tomball—Harris County

Humble O. & R. Co. No. 2 Heeck, Wm. Heird Sur. T.D. 5,582 ft.; tstg.
Humble O. & R. Co. et al No. 16 Reid, Goodrick Sur. R.U.
Humble O. & R. Co. No. 2 Black, J. Pruitt Sur. T.D. 5,565 ft.
Humble O. & R. Co. No. 1-B Jurgens. T.D. 5,580 ft.
Southwest Inv. Co. No. 3 Hillegiest, J. Hause Sur. S.D. 70 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Burford, C. Williams Sur. T.D. 6,778 ft.; rng. Schlumberger.
Humble O. & R. Co. No. 1 Charpect, C. Williams Sur. Drlg. 3,630 ft.
Humble O. & R. Co. No. 4 Crook, C. Williams Sur. Drlg. 1,053 ft.
Humble O. & R. Co. No. 2 Fitzgerald, C. Williams Sur. T.D. 6,777 ft.; I.P. 24 B. P.H.; ¼-in. ck.
Humble O. & R. Co. No. 2 Gaspard, H. Savey Sur. T.D. 6,779 ft.; 5½-in. csg. 6,773 ft.; I.P. 25 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 5 Langham, C. Williams Sur. 9⅝-in. csg. 1,025 ft.; T.D. 6,777 ft.; W.O.C.
Humble O. & R. Co. No. 5 Guinn, C. Williams Sur. Drlg. sh. 6,200 ft.
Humble O. & R. Co. No. 1 McCormick. Drlg. sh. 3,810 ft.
Humble O. & R. Co. No. 1 Mulligan, C. Williams Sur. T.D. 6,803 ft.; P.B. 6,778 ft.; 5½-in. csg. 6,797 ft.; perf. csg. 6,-780-83 ft.
Humble O. & R. Co. No. 7 Peveto, C. Williams Sur. T.D. 6,778 ft.; 5½-in. csg. 6,775 ft.; comp.; no gauge.
Humble O. & R. Co. No. 4 Pinchback, C. Williams Sur. T.D. 6,776 ft.; W.O.C.
Humble O. & R. Co. No. 1 Shelby, A. Savey Sur. T.D. 6,779 ft.; 5½-in. csg. 6,775 ft.; I.P. 25 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 1-C Tyrell-Combest, A. Savey Sur. T.D. 6,779 ft.; 7-in. csg. 6,779 ft.; I.P. 679 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 5 Tyrell-Combest, C. Williams Sur. Drlg. sh. 5,759 ft.
Glenn H. McCarthy No. 7 Longe, H. Williams Sur. R.U.
Glenn H. McCarthy No. 3-A Longe, H. Williams Sur. T.D. 5,401 ft.; tstg.
Stanolind O. & G. Co. No. 3 W. P. McCormick, H. Williams Sur. Drlg. sh 3,721 ft.
Stanolind O. & G. Co. No. 4 McCormick, H. Williams Sur. R.U.
Stanolind O. & G. Co. No. 3 Sargl, H. Williams Sur. T.D. 5,402 ft.; 7⅝-in. csg. 5,383 ft.; I.P. 488 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 4 Sargl, H. Williams Sur. T.D. 6,106 ft.; oil sd.; comp.; no gauge.
Stanolind O. & G. Co. No. 5 Sargl, H. Williams Sur. T.D. 5,390 ft.; I.P. 520 B.P.D.
Sun Oil Co. No. 1 Gailey, Houston Sur. 16-in. csg. 107 ft.; drlg. sh. 4,647 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2-B Pipkin, Wm. McFadden Sur. Drlg. sd. and L. 4,784 ft.
Stanolind O. & G. Co. No. 2 May Fitzhugh, Wm. McFadden Sur. Drlg. sd. and L. 2,130 ft.
Stanolind O. & G. Co. No. 4-A Pipkin, T.&N.O. Sur. Drlg. sd. and L. 3,483 ft.

Fannett—Jefferson County

Gulf Oil Corp. No. 8 Junker, Wm. Smith Sur. 10¾-in. csg. 1,948 ft.; drlg. sd. and sh. 5,112 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur. 18⅝-in. csg. 109 ft.; T.D. 8,598 ft.; 9⅝-in. csg. 8,538 ft.; core sh. 9,891 ft.

Nome—Jefferson County

Shell Pet. Corp No. 3 "B" Unit, M. E. Peveto Sur. Drlg. sh. and L. 5,603 ft.
Sun Oil Co. No. 1 Tindell, A. Horton Sur. Drlg. L. and sh. 6,738 ft.
Sun Oil Co. No. 9 Paggi, J. W. Kirby Sur. Drlg. sh. and L. 5,142 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 18-C Kirby, J. Pleasant Sur. T.D. 5,886 ft.; 7-in. csg. 5,880 ft.; I.P. 450 B.P.D.; ¾-in. ck.
Gulf Oil Corp. No. 19-C Kirby, J. Pleasants Sur. R.U.

Esperson—Liberty County

General Crude Oil Co. No. 30 Moores Bluff, M. Denman Sur. T.D. 2,946 ft.

Hankamer—Liberty County

Gulf Oil Co. No. 25 E. W. Boyt, Amos Allen Sur. Drlg. 1,530 ft.

Hardin—Liberty County

Jack Frazier No. 1 Roberts, H. B. Johnston Sur. R.U.
Woodley Pet. Co. No. 1 McMurtay, H. B. Johnston Sur. R.U.

Hull—Liberty County

Bishop Oil Co. No. 1 C. R. Wilson, J. Devore Sur. Oil sd. 780-88 ft.; T.D. 4,127 ft.; 7-in. csg. 2,204 ft.; perf. csg. 2,286-90 ft.; P.B. and strkd.; S.D. 2,276 ft.
Gulf Oil Corp. No. 24 Baldwin, J. Devore Sur. Spd.
Republic Prod. Co. No. 162 Dolbear, J. Devore Sur. T.D. 2,960 ft.; P.B. and sdtrkd.; T.D. 3,277 ft.; 7-in. csg. 2,916. comp.; no gauge.
Texas Co. No. 7 Hannah fee, J. Devore Sur. Drlg. sh. 4,733 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 2 J. C. Crooker, E. Hall Sur. R.U.

Buckeye—Matagorda County

United North & South Development Co. No. 1 G.B.M. Cotton League. 13⅜-in. csg. 1,530 ft.; drlg. sh. 2,610 ft.

Hawkinsville—Matagarda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; 18⅝-in. csg. 2,174 ft.; 13⅜-in. csg. 3,700 ft.; 9⅝-in. csg. 5,689 ft.; T.D. 5,969 ft.; hole cleaned; P.B. and sdtrkd.; T.D. 6,040 ft.; running 7-in. csg.

Palacios—Matagorda County

Glenn H. McCarthy No. 1 Foley Land Co., L. Goodwin Sur. T.D. 8,068 ft.; P.B. and strkd.; stuck drill stem at 8,000 ft.; P.B. to sdtrk.; abd.
Glenn McCarthy No. 2 Foley, L. Goodwins Sur. R.U.
Glenn McCarthy No. 1 W. M. Rohls, sec. 10, L. Goodwin Sur. R.U.
Glenn McCarthy No. 1 Palacious State Bank, L. Goodwin Sur. R.U.
Sun Oil Co. No. 1 Bay Shore Farms, Lewis Goodwin Sur. 13⅜-in. csg. 1,910 ft.; drlg. sh. 5,412 ft.

Van Vleck—Matagarda County

Skelly Oil Co. No. 2 Johnson, M. Cummins Sur. T.D. 8,308 ft.; run Schlumberger.

Segno—Polk County

J. K. Dorrance No. 2 Wing, I.&G.N. Sur. No. 15. 7-in. csg. 5,185 ft.; T.D. 5,301 ft.; S.W. sd.; P.B. 5,204 ft.; reset screen and lnr.
J. K. Dorrance No. 3 Wing, I.&G.N. Sur. No. 15. 10¾-in. csg. 709 ft.; T.D. 5,458 ft.; S.D.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. T.D. 6,013 ft.; P.B. 5,460 ft. to straighten hole.
Humble O. & R. Co. No. 5-B Kirby Lbr. Co., M. Victor Sur. Drlg. sh. and L. 2,-200 ft.

Quintana-O'Connor-Greta—Refugio County

United Gas Corp. No. 53 Lambert, Swisher Sur. T.D. 5,915 ft.; 7-in. 5,905 ft.; comp.; no gauge.
United Gas Co. No. 54 Lambert, J. M. Swisher Sur. Drlg. sh. 5,250 ft.
United Gas Corp. No. 55 Lambert, Swisher Sur. Drlg. 5,423 ft.
United Gas Corp. No. 12 J. J. O'Brien. T.D. 9,225 ft.; perf. liner 8,103-8,128 ft.; tstd. S.W.; P.B. 7,800 ft.; tstg.

Spurger—Tyler County

Republic Production Co.-Houston O. Co. No. 3 Hurd, N. Hurd Sur. 10¾-in. csg. T.D. 7,640 ft.; 7-in. csg. 7,630 ft.; I.P. 495 P.B.D.; ¾-in. ck.; T.P. 1,500 lbs.; C.P. 2,100 lbs.
Republic-Houston Oil Co. No. 4 Hurd, N. Hurd Sur. R.U.

Keeran—Victoria County

Union Oil Co. No. 5 Keeran, M. DeLeon Sur. Drlg. sh. 5,530 ft.

McFadden—Victoria County

Transwestern Oil Co. No. 3 J. A. McFadden, Julus Varian Sur. T.D. 6,213 ft.; ran Schlumberger survey; no report.

Placedo—Victoria County

Barnsdall Oil Co. et al No. 19 Pickering-Roos. S.A.&M.G. Sur. 10¾-in. csg. 881 ft.; drlg. 2,612 ft.
Barnsdall Oil Co.-American Liberty Oil Co., S.A.&M.G. Sur. R.U.
Lion O. & R. Co. No. 3 S. W. Wright. S.A.&M.G. Sur. T.D. 4,775 ft.; R.U. to pmp.
Magnolia Pet. Co. No. 9 Chas. Sklar, S.A. &M.G. Sur. T.D. 4,777 ft.; 7-in. csg. 4,764 ft.; P.B. 4,775 ft.; W.O.C.
H. B. Ownby No. 6 Traylor, S.A.&M.G. Sur. R.U.
H. B. Ownby No. 7 T. T. Traylor, S.A.& M.G. Sur. No. 7. T.D. 4,774 ft.; 5½-in. csg. 4,758 ft.; comp.; no report.
Shell Pet. Corp. No. 5 Houston Natl. Bank, S.A.&M.G. Sur. T.D. 6,050 ft.; perf. csg.

Clay Creek—Washington County

Oak Oil Corp. No. 1 G. Cockrell, J. F Perry Square Sur. T.D. 1,365 ft.; W. O.C.
Sun Oil Co. No. 6 Droger, J. Perry Sur. Drlg. salt 4,837 ft.

Five Corners—Wharton County

Texas Co. No. 7-B Pierce Est., J. Caldwell Sur. T.D. 5,555 ft.; 7-in. csg. 5,554 ft.; flwd. oil and S.W.; squeezed off bttm. with cmt.; flwd. 75% S.W.; killed; reset screen; swabbed S.W.; pulling screen; set retainer 5,524 ft.; P.B. and sdtrkd.; drlg. 5,367 ft.

Louise—Wharton County

Pure Oil Co. No. 4 Houston, T. W. Hurd Sur. Drlg. 3,612 ft.

Magnet—Wharton County

Atlantic Ref. Co. No. 1-B H. C. Cockburn, J. Smith and McKenzie Sur. T.D. 5,-540 ft.; oil sd.; 7-in. csg. 5,540 ft.; perf. csg. 5,533-37 ft.; flowed some oil and gas; set retainer at 5,526 ft.; squeezed off perf.; reperf. csg.; I.P. 10 B.P.H.; ¼-in. ck.
Atlantic Ref. Co. No. 2-B H. C. Cockburn, Smith & McKenzie Sur. Spd.
Humble O. & R. Co. No. 1 Cockburn, S. Castleman Sur. 10¾-in. csg.; 1,236 ft.; drlg. sh. 2,800 ft.
Texas Crusader Oil Co. No. 1-B Sweet, Smith & McKenzie Sur. Drlg. sh. 1,400 ft.

Pickett Ridge—Wharton County

Texas Co. No. 33-A Pierce Est., G.B.&N. Sur. No. 4; 9,000-ft. test. Drlg. sh. and Sur. No. 4; 9,000-ft. test. Drlg. sh. 7,-260 ft.

Withers—Wharton County

Texas Co. No. 34-C Pierce Estate, Wm. Pettus Sur. Drlg. sh. 4,837 ft.

GULF COAST WILDCATS

Austin County

Cockburn Oil Corp. No. 1 Bartay-Mott and Steno, S.S.E.Y. Sur. 10¾-in. csg. 360 ft.; drlg. sh. 3,387 ft.
Ohio Oil Co. No. 1 Kempner Adams, H. T.&B. Sur. No. 33. R.U.
Humble O. & R. Co. No. 1 W. B. Munson, S. Carter Sur. R.U.
Texas Gulf Prod. Co. No. 1 W. D. Adams, H.T.&B. Sur. No. 40. Drk.

Brazoria County

Pure Oil Co. No. 1 P. M. Slade, S. F Austin Lge. T.D. 7,842 ft.; hole cleaned; repair rig; prep. to drill ahead.
Texas Co. No. 2 Robbins, James W Brougham Sur. 13⅜-in. csg. 5,498 ft.; 9⅝-in. csg. 6,060 ft.; T.D. 7,465 ft.; reaming.

Colorado County

Coyle & Concord No. 3-B Powell, I.&G.N. Sur. No. 45. R.U.

Fort Bend County

Research, Inc., No. 1 Moore, S. Kennedy Sur. Drlg. sh. 3,920 ft.
Dick Schwab and Gem Oil Co. No. 1 David Fitzgerald Sur. 10¾-in. csg. 1,-058 ft.; drlg. sh. 3,937 ft.

Harris County

Humble O. & R. Co. No. 1 Settegast, Perry and Austin Sur. Cg. oil sd. 5,990 ft.; top sd. 5,811 ft.
Superior Oil Co. No. 1 Butler, Eehrhardt Sur. Drlg. sh. 9,267 ft.

Jackson County

Cockburn and Hargrove No. 1 Ward Properties, I.&G.N.R.R. Sur., sec. 23. Abd. 6,510 ft.
George W. Greet et al No. 1 J. R. Davis, David Hoffman Sur. Drlg. sh. and sd. 5,254 ft.

Jefferson County

H. E. Hebert and Smith No. 1 Broussard, H.T.&B. Sur., sec. 10. T.D. 6,290 ft.

Matagorda County

Continental Oil Co. No. 2 Hawkins Est., D. McCarty Sur. 20-in. csg. 120 ft.; 11¾-in. csg. 5,409 ft.; drlg. sh. 5,512 ft.
Royal O. & G. Corp. No. 1 T. J. Ewing, Burnett and Sojouner Sur. Cg. sh. 7,-900 ft.

Montgomery County

Texas Co. No. 1 Crawford, Y. Springer Sur. Drlg. sh. 3,647 ft.

San Jacinto County

Cockburn Oil Corp. et al No. 1 Whitten, Wm. West Sur. T.D. 5,602 ft.; drill stem stuck.

Tyler County

McArthur & Nixon No. 1 Kountze, J. A. Hankins Sur. Sh. 2,830 ft.; no report.

Washington County

K. D. Harrison and C. E. Starr No. 1 Charles and Wm. Ellerman, Wm. Bridges Lge. 13-in. csg. 290 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 2 Kate Edwards, 330 ft. S line. Lot 85, 660 ft. SW No. 1, Wm. Lewis Sur. Drlg. 8,996 ft.
Danray Oil Co. No. 1 Davis, Tr. 5, Wm. Boyd Sur. Drlg. 8,855 ft.

Atascosa County

L. G. Priest No. 1 Bridwell, Tr. 45, Gorman Sur. S.D. 2,145 ft.

Bastrop County

R. Pulliam No. 1 Yoast, Garcia Sur. R.U.
Marts & Beavens No. 1 Kennard, G. Glasscock Sur. R.U.

Bee County

J. J. Cosner No. 1 Franklin Life, Morena Gr. Spdg.
J. R. Dougherty No. 2 Hicks, H. George Sur., Uranga Gr. D.&A. 5,009 ft.

Bexar County

L. & K. Oil Co. No. 1 Russell, Rodrigues Sur. Set csg. 21 ft.; W.O.C.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. S.D. 1,-216 ft.
H. T. Roe No. 4 Morrisey, Webb Sur. 91. R.U.

Brooks County

Standard of Tex. No. 1 Mestina, Mestina Lse. No. 3. Drlg. 6,785 ft.

Burleson County

J. H. Lyles No. 1 Scott, Long Sur. D.&A. 4,010 ft.

Caldwell County

F. & W. Drlg. Co. No. 1 Rodenberg, J. Berry Sur. T.D. 2,029 ft.; rng. tbg.
E. H. Grazer No. 1 Field, Dikes Sur. T.D. 1,965 ft.; swbg. oil.
Housel Oil Co. No. 1 Driscoll. D.&A. 1,-520 ft.
J. O. Mack, Jr., No. 1 Withers, Wm. House Sur. S.D. 1,475 ft.
C. R. Richardson No. 1 Patterson, S. Pettus Sur. S.D. 780 ft.
G. C. Richardson No. 1 Trammel, E. Berry Sur. Drlg. 2,059 ft.
Lee Ross No. 1 Daugherty, John Tyler Sur. Drlg. 556 ft.
Sherman Nelson No. 1 Etheridge, T. Hunter Sur. T.D. 2,180 ft.; R.U.; W.O.O.

Cameron County

Ruez-Morton No. 1 United Land Irr. Co., Lot 7, Blk. 402, El Jardin Subd. Drlg. 5,930 ft.
Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk 17, P.I.I.Co. Subd. Stanto Gr. S.D. 8,000 ft.

Dimmitt County

Wilcox O. & G. Co. No. 1 Light ranch. 330 ft. N and E line, sec. 67. Drlg. 7,610 ft.

Duval County

Govt. Wells Oil Co. No. 2 Lundell, sec. 140. D.S.T. 1,518-26 ft.; rec. 1,050 ft. P.L.O.; set 7-in. csg. 1,526 ft.; drlg. in.
King Drlg. Co. No. 1 Parr, San Andres Gr. Cg. 5,993 ft.
Liberty Oil Co. No. 1 State, Sur. 216. Drlg. sh. 1,280 ft.
Magnolia Pet. Co. No. 1 Well. Sur. 565. Sd. 2,799-2,812 ft.; tstd. S.W.; cg. 3,-692 ft.

Edwards County

Amon G. Carter No. 1 Sweeten, Blk. 2, sec. 49. T.D. 700 ft.; M.I. rot.

Frio County

Amerada Pet. Corp, No. 1 Harriman Flores Sur. 306. Lost hole; T.D. 6,410 ft.; set csg. 6,408 ft.; drlg. plugs.
Pagenkoff & Jamieson No. 2 Blackaller, Gourley Sur. 765. Drlg. 2,011 ft.

Goliad County

Goliad Oil Co. No. 2 Cole, lot 33, Goliad Town. Tr. Sur. Set protective csg. 4,-500 ft.; to drill ahead.

Guadalupe County

Paul Armstrong No. 1 Tiller, King Sur. T.A. 2,370 ft.
Fair et al No. 1 Hemple, Williams Sur. T.D. 2,076 ft.; S.D.; oil and wtr. in hole.
Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft.; drlg. plugs.
Robertson et al No. 1 Blumberg, M. Baker Sur. Drlg. 1,026 ft.

Jim Wells County

Magnolia Pet. Co. No. 7 Seeligson, 10,433-ac. tr., Los Jaboncillos Gr. D.S.T. 5,-380-86 ft. rec. 17 ft. dist. W.P. 200 lbs.; prep. retest; drlg. 5,817 ft.
Wellington Oil Co. No. 1 C. D. Sevier, 5,877 ft. E line, 5,525 ft. S line, Lola Gr. T.D. 6,509 ft.; D.&A.

Kendall County

Landon & Peffley No. 1 Seidensticker, Sur. 257, Chorcon Gr. R.U.

Lee County

Elaussa Oil Co. No. 1 Saunders, Von Reeder Sur. Set csg. 3,672 ft.; T.D. 3,675 ft.; S.D.
Jas. E. Pederson No. 1 Turner, David Hudson Sur. W.O.; drlg. 6,131 ft.

Live Oak County

Henshaw Bros. & Nelson No. 1 Uiesch, Triplett Sur. No. 150. R.U.
Loma Oil Co. No. 1 Schwartz, McKilley Sur., Abst. 19. Cg. 1,507 ft.

McMullen County

Edwards, Zock et al No. 1 Two Rivers Ranch Co., 150 ft. S and W lines, SE¼, sec. 60. S.D. 300 ft.
Howell Oil Corp. No. 1 Martin, Sur. 213. S.D. 2,375 ft.
W. L. Hinds No. 1 Rhodes, NE¼, NW¼ sec. 54. Drlg. 756 ft.
E. M. Jones No. 3 Ezell, SE¼, sec. 3, Ezell ranch. D.S.T. 1,533-47 ft.; rec. 750 ft. P.L.O. in 15 min. ⅜-in. ck.; rng. csg.; T.D. 1,547 ft.
Rowan & Nichols No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. Drlg. 1,-526 ft.
C. C. Shumway No. 10 Shiner ranch, sec. 51, Shumway Subd. Drlg. 2,012 ft.

Milam County

Kingdor Expl. Co. No. 1 White, B. Wickson Sur. M.I.R.

Nueces County

J. K. Culton No. 1 Singer, Lot 13, Blk. 39, Encinal Gardens. Cg. 6,673 ft.
Gillock et al No. 2 Poenisch, Lot 11, sec. 32. Spdg.
W. L. Hinds Drlg. & Expl. Co. No. 1 River Bros. 80-ac. tr., sec. 301. Sd. 5,670-90 ft.; S.O.; tstd. S.W.; cg. 5,693 ft.
Mills Bennett Prod. Co. No. 1 Heuerman, C. Land Sur. 408. D.&A. 6,403 ft.
Seaboard Oil Corp. No. 1-C Chapman, sec. 111, Laureles Farm Lots. Drlg. 352 ft.
Seaboard Oil Corp. No. 1 James Luby, Blk. 4, Mary Luby Subd., Petronilla ranch. T.D. 5,333 ft.; set csg. 5,175 ft.; perfg. 5,045-50 ft.; reperf. 5,049-50½ ft.; D.S.T. 3 hrs.; flowed 8 B.P.H. oil, ¼-in. cks.; W.P. 1,450 lbs.
Southern Minerals Corp. No. 1 R. King, sec. 32, King Farm Lots. Sd. 6,515 ft.; tried to blow out; killed; stuck D.S.; D.&A. 7,564 ft.
Taylor Pet. Co. No. 1 Stiles, Blk. 14, sec. 18, Petronilla ranch. D.&A. 7,022 ft.

San Patricio County

Danray Oil Co. No. 1 Davis, Tr. 5, Wm. Boyd Sur. S.D. 3,771 ft.
Eleanor Oil Co. No. 1 Green Est., 167.4-ac. tr., Williamson Sur.; (W.O.). Old T. D. 6,800 ft.; set 5-in. csg. 7,000 ft.; W.O.C.
Humble O. & R. Co. No. 1 McCampbell 610.62-ac. tr., Martinez Sur. Drlg. sh. 6,045 ft.
Plymouth Oil Co. No. 1-A Odem, subd. 2, A. Herron Sur. Fsg. 4,550 ft.
Wellington Oil Co. No. 1-B Welder, SE¼ sec. 6, Cubage & Miller Subd., Garza Sur. Drlg. 1,565 ft.

Starr County

Calderoni-James-Foliette No. 1 Rodrigues, Blk. 6, Sh. 56, Porc. 80. Set sur. csg. 100 ft.; S.D.
Donroy Oil Co. No. 1 Ramon, 2,400 ft. SE line, 150 ft. SW line, sec. 150. Cg. 1,281 ft.
Gilcrease Oil Co. No. 1 Castillo, Sh. 7-D, Porc. 77. Sd. 776-82 ft.; S.G.
Henry Mode et al No. 1 Keisey-Bass, Blk. 7, Porcs. 86 and 87. T.D. 2,600 ft.; rng. electrical Sur.

Travis County

Joe E. Mills No. 1 Washington, Jose Navarro Gr. D.&A. 300 ft.

Webb County

Bridwell Oil Co. No. 1 Longorio, Sur. 691. Cg. 2,457 ft.
Eugene Garner No. 2 Saldivar, Blk. 12, Sur. 567. Oil sd. 997-1,000 ft.; flwd. 3 B.P.H.; acdzg.; S.D.
Lu Tex Oil Co. No. 2-A Lone Star Constr. Co., Porc. 12. T.D. 2,790 ft. S.D.W.O.O.
J. W. Magee No. 1 Garcia, Blk. 21, James Subd. R.U.; S.D.
Paul Meaders No. 1 Garcia, Sur. 338. Loc.
J. R. B. Moore No. 1 Slator, Blk. 7¼, Slator subd., Borrego Gr. Spdg.
Perkins, Cullen & Achning No. 1 Garza. Sur. 711. Cg. 2,011 ft.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendiaz, C Lot 9, Sh. 4, San Juan de Carricitos Gr. Drlg. 537 ft.
Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. S.D. 643 ft.

Wilson County

R. C. Stanley No. 2 Heirholzer, R. Salina Sur. Oil sd. 1,025-30 ft.; drlg. plug.

Zapata County

Allison & Abrams No. 1 Vela, Sur. 249. Drlg. 617 ft.
Gilcrease Oil Co. No. 2 Trevino, Blk. 12, sec. 8, Porc. 3. T.D. 2,100 ft.; S.D.; W.O.O.
O. W. Killam No. 1 Bruni, Blk. 83, Ranchito Pasture, Borrego Gr. Spd.
J. O. Sheffield No. 1 Buck, Blk. 15, Sur. 273. Cg. 1,975 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2 Maryland Trust Co., 330 ft. N and E lines, Blk. 23. Set csg. 6,516 ft.; sd. 7,094-7,142 ft.; comp.; 364 B.P.D. on ¼-in. ck.
Buckingham Oil Co. No. 8-A McCampbell, "A" Lse., Blk. 42. Sd. 7,104-23 ft.; S.G.&O.; set csg. 7,117 ft.; comp.; est. 20 B.P.H. on ¼-in. ck.; perf. 7,105-10 ft.
Buckingham Oil Co. No. 11-A McCampbell, Lot 7, Blk. 41. Drlg. 6,825 ft.
Buckingham Oil Co. No. 12-A. McCampbell, Lot 7, Blk. 42. Drlg. 6,790 ft.
Buckingham Oil Co. No 4-B McCampbell, Lot 16, Blk. 40. Cg. 7,110 ft.
Collins & Broughton No. 1 McCampbell, Lot 5, Blk. 37 (W.O.). Perf. 7,110-14 and 7,135-38 ft.; tstd. S.W.; S.D.
Landreth Prod. Co. No. 3-A McCampbell, Lot 1, Blk. 40. Sd. 7,110-13 ft.; rng. csg.
Shasta Oil Co. No. 1 Vaughn, Lot 13, Blk. 10. R.U.

North Dale—Bastrop County

Easton & Manning No. 1 Duran, S. Flint Sur. Cg. sh. 2,296 ft.

Plummer—Bee County

Ann Oil Co. No. 2-B Smith, J. R. Johnson Sur. T.D. 3,066 ft.; set csg. 3,054 ft.; drlg. plugs.
El Toro Oil Co. No. 1 Robertson, Thos. B. Barton Sur. Drlg. sh. 2,897 ft.
W. C. McBride, Inc., No. 1-B Plummer, Johnson Sur. Plug perf. 3,057 ft.

West Tuleta—Bee County

Salt Dome Oil Co. No. 1 Tuleta Mercantile Co., sec. 10, Uranga Gr. T.D. 3,065 ft.; set 5-in. csg. 3,030 ft.; W.O.C.

Von Ormy—Bexar County

J. Beard No. 5 Barragan, Simpson Sur. T.D. 665 ft.; W.O.P.
Virginia Oil Co. No. 1 Ritter, Barrera Sur. Comp.; 3 B.P.D.; T.D. 503 ft.
Virginia Oil Co. No. 2 Ritter, Barrera Sur. Comp.; 3 B.P.D.; T.D. 620 ft.

Alta Mesa—Brooks County

Standard of Texas No. 5 Mestina, Lease No. 1. S.D. 4,996 ft.; repairs.

Standard Oil of Texas No. 2 Garcia, Lse. No. 1. Set csg. 341 ft.; W.O.C.

Alta Verde—Brooks County

Bishop & Woods No. 1 Maupin, Sur. 311. Set csg. 50 ft.; S.D. 140 ft.; M.I.R.
Lynway Oil Co. No. 1 Singer, Blk. 9, Sur. 436. Sds. 232-34 ft. and 245-47 ft. S.O. drlg. 776 ft.
Dick Young No. 5 Singer, Blk. 12, Sur. 312 (W.O.). Sd. 1,412-20 ft.; S.D.

Branyon—Caldwell County

F. J. Adams No. 3-B Ellison, Jarman Sur. Drlg. 937 ft.
Baker-Freeman No. 1 Corder, J. A. Neill Sur. T.D. 2,115 ft.; R.U. to pmp.
Chiquita Oil Co. No. 6 Robertson, Neill Sur. T.D. 2,198 ft.; rng. csg.
Lanning & Coffield No. 3 Corder, J. A. Neill Sur. Swbg.; T.D. 2,214 ft.
Lincoln Pet. Co. No. 6-B Branyon, Miller Sur. Drlg. 2,167 ft.
Lincoln Pet. Co. No. 6 Brown, Cooper Sur. T.D. 2,133 ft.; comp.; no gauge.
Lincoln Pet. Co. No. 5 Brown, D. Cooper Sur. R.U. to pmp. 2,137 ft.
R. Mallory No. 2 Brown, J. R. Miller Sur. T.D. 2,224 ft.; flwg.
Sherman Nelson No. 1 Best, Neill Sur. T.D. 2,284 ft.; W.O. pmp.
B. F. Robinson No. 1 Young, Miller Sur. Set csg. 2,180 ft.; W.O.C.
B. F. Robinson No. 2 Young, J. R. Miller Sur. Set csg. 1,897 ft.; W.O.C.
Rosita Oil Co. No. 1 Lockhart State Bnk., J. Roe Sur. Set csg. 2,004 ft.; T.D. 2,215 ft.; stdg.
Taylor Ref. Co. No. 5-A Branyon, D. Cooper Sur. Fsg. 1,000 ft.
S. M. Vaughy No. 2 Clark, J. Miller Sur. T.D. 2,177 ft.; bailing oil and wtr.
S. M. Vaughy No. 5 Flowers, Neill Sur. T.D. 2,160 ft.; bailing.
W. M. Vaughy No. 6 Flowers, J. A. Neill Sur. Set csg. 1,869 ft.; W.O.C.
R. S. Wyrick No. 3 Magee. Set csg. 2,060 ft.; W.O.C.

Buchanan—Caldwell County

Easton & Manning No. 1 Bozarth, Cannon Sur. Drlg. 2,045 ft.
Edwill Oil Co. No. 1 Brown, Cannon Sur. Drlg. 956 ft.
Sherman Nelson No. 1 Moore, Clinton Sur. Bailing 2,274 ft.
R. A. Stamey No. 1 Brown, Cannon Sur. T.D. 2,256 ft.; chalk; flwg.; no gauge.

Dunlap—Caldwell County

Spokane Oil Co. No. 2 Starcke, Crenshaw Sur. Set csg. 1,275 ft.; W.O.C.
Stapper Pet. Corp. No. 1 Martin, A. Floyd Sur. T.D. 2,440 ft.; comp.; no gauge.

Larremore—Caldwell County

Fagenkopf & Jamieson No. 2 Hanson, Hinds Sur. Drlg. 2,216 ft.
Universal O. & G. Co. No. 1 Dye, Hinds Sur. Bailing oil and wtr. 2,544 ft.

Luling—Caldwell County

R. Albright No. 1 Cosey, Henry Sur. Drlg. sh. 456 ft.
Koening Oil Co. No. 10 Tiller, Henry Sur. Drlg. sh. 823 ft.
Magnolia Pet. Co. No. 15 Tiller, Henry Sur. R.U. to pmp.; T.D. Edw. 2,093 ft.
Millican & Norman No. 2 Tolbert, Henry Sur. Drlg. 2,103 ft.
Rio Bravo Oil Co. No. 14-L Merryweather, Henry Sur. Comp.; 96 B.P.D.; sd. 2,123-25 ft.

Salt Flat—Caldwell County

Chiquita Oil Co. No. 5 Hickman, G. Hinds Sur. Set csg. 2,639 ft.; W.O.C.

Charamousca—Duval County

N. V. Duncan No. 10 Worden-Draught, Sur. 151. Cg. 1,477 ft.

Colmena—Duval County

Humble O. & R. Co. No. 5-D D.C.R.C., sec. 585. Set csg. 1,432 ft.; W.O.P.
Humble O. & R. Co. No. 6-D D.C.R.C., sec. 585. Drlg. sh. 1,240 ft.
Magnolia Pet. Co. No. 1 D.C.R.C., sec. 49. Comp.; gasser; T.D. 1,553 ft.
Wellington Oil Co. No. 5 D.C.R.C., Blk. 10, sec. 51. R.U.

Driscoll—Duval County

Continental Oil Co. No. 17-A Sevier, Sur. 448. O.W.W.O.; old T.D. 2,955 ft.; set 5-in. csg. on sd. 3,433-36 ft.; W.O.C.

Government Wells—Duval County

Central Prod., Inc. No. 5 Wendt, sec. 43. Drlg. 2,617 ft.
Central Prod., Inc. No. 5 Luptack, Sur. 41. Set csg. 2,442 ft.; comp.; 70 B.P.D.; sd. 2,443-47 ft.
Humble O. & R. Co. No. 5 Roos, sec. 119. Drlg. sh. 2,038 ft.
Southwest Prod. Co. No. 5 Luptack, sec. 41. Sd. 2,409-15 ft.; comp.; 96 B.P.D.; ½-in. ck.

Labbe—Duval County

Humble O. & R. Co. No. 3 Roos, sec. 119. Drlg. 1,377 ft.
Humble O. & R. Co. No. 5 Roos, sec. 119. Set csg. 2,822 ft.; W.O.C.
Magnolia Pet. Co. No. 6 Labbe Ranch, Sur. 1. R.U.

Loma Novia—Duval County

F. J. Gravis No. 4 Hahl, Sur. 64. R.U.
Reynosa Oil Co. No. 1-C McLean, Sur. 62. Comp.; 11 B.P.D.; T.D. 2,825 ft.
Shell Pet. Corp. No. 11 Bishop, Sur. 59. Sd. 2,550-54 ft.; comp.; 288 B.P.D.; open tbg.; T.D. 2,575 ft.
Shell Pet. Corp. No. 12 Bishop, Sur. 59. Set csg. 2,546 ft.; W.O.C.
Texas Co. No. 6-B Ruiz, Sur. 41. T.D. 2,711 ft.; swbg. oily mud.

North Sweden—Duval County

Argo Oil Co. No. 1 Carrillo, NE¼, sec. T.D. 4,760 ft.; set csg. 4,746 ft.; W.O.C.
Argo Oil Co. No. 2 Carrillo, E½ SE¼ sec. 9. Drlg. 1,855 ft.
Argo Oil Co. No. 3 Carrillo, E½ SE¼ sec. 9. Drlg. 565 ft.
Argo Oil Co. No. 4 Carrillo, NE¼, sec. 9. R.U.
Arkansas Fuel Oil Co. No. 1 Rossi, 330 ft. N and E lines, sec. 10, Sweden Farm Lots. T.D. 4,758 ft.; 7-in. csg. 4,736 ft.; comp.; 108 B.P.D. on ¼-in. ck.
Arkansas Fuel Oil Co. No. 2 Rossi, Blk. 10. M.I.M.
Benedum & Trees Oil Co. No. 2 Puig, 750 ac. tr., San Andres Gr. Set csg. 4,755 ft.; T.D. 4,766 ft.; completing.
Benedum & Trees O. Co. No. 3 Puig, 330 ft. N line, 990 ft. W line lease, San Andres Gr. Drlg. 4,267 ft.
Frank Gravis No. 3 Puig, sec. 24, San Andres Gr. Drlg. 4,726 ft.
Frank Gravis Oil Co. No. 1 Puig, sec. 24, Andres Gr. R.U.
Navarro O. Co. No. 1 Rossi, Blk. 11, sec. 35. Cg. 5,307 ft.
Parr Oil Co. No. 2 Puig, 150-ac. tr. Sur. 24, Santos Flores Gr. Sd. 4,803-08 ft.; cleaning in pits.
Reynosa Oil Co. No. 2 Wilson, Blk. 9. Sd. 4,752-66 ft.; washing in.
Standard of Kansas No. 1 Parr, San Andres Gr. Sd. 4,718-48 ft.; rng. csg.

Palangana—Duval County

Penn Palangana Oil Co. No. 1 C. K. Gravis Sur. 250. Drlg. 4,667 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 11 D.C.R.C., sec. 95. Comp.; 30 B.P.D.; sd. 1,951-61 ft.
Magnolia Pet. Co. No. 18 D.C.R.C., Sur. 100. M.I.M.

Seven Sisters—Duval County

Humble O. & R. Co. No. 19 Dowdy, Sur. 272. Set csg. 2,561 ft.; W.O.C.
Humble O. & R. Co. No. 20 Dowdy-fee, sec. 272. D.S. tstg. 2,410 ft.
Pan American Prod. Co. No. 5-A Welder, Sur. 381. Drlg. 270 ft.
Sun O. Co. No. 1 Rodriguez, 421.7-ac. tr., secs. 221 and 222. Sd. 2,748-54 ft.; set csg.; reworking.

Sweden—Duval County

Hiawatha Oil Co. No. 2 Miller, sec. 24, Santos Flores Sur. Drlg. 3,766 ft.
Hiawatha Oil Co. No. 3 Southland Life, Blk. 15. Drlg. 3,947 ft.

Thomas-Lockhart—Duval County

Thomas Est. & Lockhart No. 3-A Parr, Sur. 26. Sd. 4,686-90 ft.; T.D. 4,882 ft.; D.&A.

Pearsall—Frio County

Amerada Pet. Corp. No. 1 Halff & Opperheimer (W.O.). Old T.D. 6,312 ft.; perf. 6,280-95 ft.; cleaning hole.
Amerada Pet. Corp. No. 8 Halff & Opperheimer, S. A. Ditch Sur. 1,104 (W.O.). Set 7-in. protective csg. 10,341 ft.; W.O.C.
Amerada Pet. Corp. No. 1 Kothman, B. L. Crouch Sur. (W.O.). Old T.D. 4,370 ft.; T.D. 5,559 ft.; M.I. rot.

Hords Creek—Goliad County

Brown & Wheeler No. 1-D Kaufman Trevino Sur. Set csg. 4,454 ft.; perf. 4,370-92 ft.; S.O.&G.

Slick—Goliad County

Dirks Bros. No. 1 Allen, O. Marshall Sur. Pettus sd. 4,239-54 ft.; T.D. 4,550 ft.; reworking.

Darst Creek Extn.—Guadalupe County

Ada Oil Co. No. 1 Williams, DeWitt Sur. Pmpg. 175 B.P.D.; T.D. 2,512 ft.
Geo. Bobb et al No. 1 Williams, DeWitt Sur. S.D. 30 ft.
L. D. Denman No. 1 fee, Arrington Sur. Set csg. 2,300 ft.; W.O.C.
La Jita Corp. No. 5 Denman, Arrington Sur. Comp.; 70 B.P.D.; T.D. 2,469 ft.
Lipscomb & Newton No. 1 Inman. Comp.; 72 B.P.D.; T.D. 2,559 ft.
Saxet Oil Co. No. 2 Lay, Davis Sur. Drlg.
Saxet Oil Co. No. 2 Lay, Davis Sur. T.D. 2,780 ft.; straightening hole.

Samfordyce—Hidalgo-Starr Counties

Dean Bros. No. 1-C George, 20-ac. tr., Sh. 13, Porc. 41. D.&A. 3,010 ft.
Ralph E. Fair No. 3 Flores, 30-ac. tr., Tr. 250, Porc. 38. Comp.; est. 300 B.P.D.; sd. 2,965-73 ft.

LaBlanca—Hidalgo County

Atlantic Ref. Co. No. 1 Lewis, Blk. 214. Drlg. 3,455 ft.
Dee Davenport No. 1 Swallow, Blk. 215 Drlg. 5,532 ft.

Randado—Jim Hogg County

Magnolia Pet. Co. No. 43 M. S. Banks, Sur. 151. D.&A. 2,226 ft.

Armagosa—Jim Wells County

Tom Graham No. 1 Earhart, John Suggs Sur. T. D. 4,000 ft.; set csg. 3,170 ft.; S.O.; perf. 3,099-3,111 ft.; swbd. S.W.; T.D. 4,000 ft.; S.D.

Bentonville—Jim Wells County

Camp. Prod. Co. No. 2-B Pope, N½, sec. 13, King Farm Lots. Drlg. sh. 4,556 ft.
Texon Drlg. Co. No. 2 Ralston, 990 ft. W line, 330 ft. W line, sec. 17. No report.

West Premont—Jim Wells County

Graham & Gilcrease No. 4 Laughlin, Lots 94 and 99, sec. 77. Sd. 3,357-71 ft.; clg. in pits.
Homer Presnall No. 1 Haufbauer, Lots 22 and 27, sec. 72. Sd. (cor.) 3,480-94 ft.

Trio Oil Co. No. 1 Laughlin, Lots 33 and 48, sec. 77. Sd. 2,241-46 ft.; set csg. 2,235 ft.; D.&A.; T.D. 2,335 ft.

Kingsville—Kleberg County

Clark & Stilzig No. 3 Kivlin, Blk. 8, sec. 39. R.U.
Clark & Stilzig No. 1 O'Henry, Lot 2, sec. 49. O.W.W.O.; T.D. 2,641 ft.; P.B.; perf. and reperf.; completing.

Oakville—Live Oak County

Ohio Fuel Oil Co. No. 2-A Rosebrock, L. Romero Sur. Set csg. 2,788 ft.; T.D. 2,794 ft.; comp.; 10 B.P.D. on ⅛-in. ck.; sd. 2,788-94 ft.

Calliham—McMullen County

Wm. Howard No. 8 Claunch, Hely Sur. Sd. 1,053-63 ft.; T.D. 1,069 ft.; comp.; 72 B.P.D.

South Calliham—McMullen County

Harrison & Danvers No. 2 Claunch, M. Hely Sur. Drlg. sh. 827 ft.

Ezzell—McMullen County

Edwin M. Jones No. 6 Ezzell, NW¼ SE¼, Ragland Sur. 20. S.D.; 8⅝-in. csg. set 234 ft.

Jacob—McMullen County

Bascom et al No. 1 Lark, Scrugham Sur. Comp.; 7 B.P.D. on pmp.; T.D. 963 ft.
Loma Oil Co. No. 8-B Jacob, Sur. 13. D.&A. 1,080 ft.
National Pet. Co. No. 4-C Lark, Scrugham Sur., Blk. 129. Comp.; 20 B.P.D. on pmp.; T.D. 968 ft.

Loma Alta—McMullen County

J. T. Lanier No. 1 Hagist, SE¼, N½, Sur. 481. Drlg. 1,420 ft.

Agua Dulce—Nueces County

Conroe Drlg. Co. No. 1 Hagan & Stewart, sec. 206, Bishop Subd. Set csg. 225 ft.; W.O.C.
United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Set 5½-in. csg. 7,457 ft.; perf. csg 7,375-84 ft.; flwg. 112 B.P.D. fluid, reported 25 to 30% oil, remainder S.W. T.D. 9,003 ft.; P.B. 7,388 ft.; S.D. 7,389 ft.
United Prod. Co. No. 3-A Rivers, sec. 9 Peters Subd. Set csg. 5,500 ft.; W.O.C.
United Prod. Co. No. 1 Schroeder, sec. 87, Paul Subd., Driscoll ranch. R.U.

Chapman Ranch—Nueces County

Seaboard O. Corp. No. 6 Collins, sec. 38, Laurels Farm Trs. Drlg. 6,557 ft.

Flour Bluff—Nueces County

Humble O. & R. Co. No. 1 Brett & Secrist, Lot 2, sec. 48. T.D. 6,662 ft.; comp.; no gauge.
Humble O. & R. Co. et al No. 1 Bracht & Webb, Lot 7, Blk. 47. Set csg. 6,661 ft.; comp.; 180 B.P.D. on ⅛-in. ck.
Humble O. & R. Co. et al No. 1 Collier Lot 29, Blk. 48. T.D. 6,670 ft.; comp.; 235 B.P.D. on 7/32-in. ck.
Humble O. & R. Co. et al No. 1 Downie & Surber, Lot 17, Blk. 48. T.D. 6,664 ft.; comp.; 137 B.P.D. on ⅛-in. ck.
Humble O. & R. Co. et al No. 2 Ritter, Blk. 55. Set csg. 6,654 ft.; comp.; 123 B.P.D. on ⅛-in. ck.
Humble O. & R. Co. et al No. 1 Roberdeau, Lot 8, Blk. 49. Drlg. sh. 1,600 ft.
Humble O. & R. Co. No. 3 Robertson, Lot 11, Blk. 56. Perf. 6,669 ft.; completing.

Saxet Heights—Nueces County

Wm. Brady No. 1 Whelan, 56.9-ac. tr., Villareal Sur. Sd. 4,025-50 ft.; drlg plugs.
Harrison Drlg. Co. No. 2 Whelan, Villareal Sur. Oil sd. 4,059-64 ft.; set csg. 4,068 ft.; S.D.
H. M. Reed No. 2 Quinn, 28-ac. tr., Villareal Sur. Perf. csg. 4,072-76 ft.; T.D. 4,120 ft.; rng. tbg.
H. M. Reed No. 3 Quinn, 28-ac. tr., Villareal Sur. Sd. and sh. 4,058-96 ft.; set csg. 4,120 ft.; comp.; 320 B.P.D. on ¼-in. ck.; T.D. 4,126 ft.
Roosth & Genecov No. 1 Rose, Lot 9, Blk. 11, Villareal Gardens. T.D. 4,094 ft.; comp.; 76 B.P.D.; sd. 4,053-76 ft.
Ben F. Smith No. 1 Snowden, 13-ac. tr., Villareal Sur. R.U.

Saxet—Nueces County

C. Andrade No. 6 Frank, 28-ac. tr., Sur. 500. Sd. 6,885-6,901 ft.; T.D. 6,941 ft.; comp.; no gauge.
Baltic Drlg. Co. No. 6 Harmon, Sur. 416. Sd. 6,300 ft.
Bentex Drlg. Co. No. 4 Harmon, 50-ac. tr., Sur. 416. Dpng.; drlg. 6,447 ft.
R. B. Bryant No. 1 Cox & Cryder, 20-ac tr., Gallagher Sur. 166. Set csg. 4,222 ft.; recmtg.
R. B. Bryant No. 2 Frank, Sh. "C," Sur. 416. (W.O.). Stdg. 5,831 ft.
R. B. Bryant No. 6 Harmon, Sur. 416. Sd. 6,922-52 ft.; T.D. 6,970 ft.; sdtrkd.; D.S.
Crown Central Pet. Corp. No. 6 Hunter, Sur. 591. Set sur. csg.; W.O.C.
Crown Central Pet. Corp. No. 8-B Morgan, 80-ac. tr., Sur. 315. Sd. 4,455-60 ft.; set csg.; tstg.
Donico Prod. Co. No. 7 Donnigan, 60-ac. tr., sec. 7, Rge. 6. Set csg. 4,305 ft.; to test.
Donico Prod. Co. No. 9 Donnigan, sec. 7 Rge. 6. T.D. 4,501 ft.; to test 4,445-55 ft.
Floboots Oil Co. No. 4 Humphries, Stevens Sur. W.O.; old T.D. 5,840 ft.; set csg. 6,982 ft.; completing.
Tom Graham No. 5 Harmon, 34-ac. tr., Sur. 416. Drlg. 3,310 ft.
Hiawatha Oil Co. No. 7 Griffith, 100-ac. tr., Sur. 416. T.D. 7,230 ft.; set 5½-in. csg. 5,580 ft.; sd. 5,332-45 ft.; perf. 5,533½-43½ ft.; comp.; 116 B.P.D. on 5/32-in. ck.
Hiawatha Oil Co. No. 11 Hutchins Stillwell, Blk. 34, Sheppard Farm Lots. Drlg. 3,110 ft.
Hiawatha Oil Co. No. 12 Hutchins Stillwell, Blk. 34, Sheppard Farm Lots. Set csg. 1,088 ft.; W.O.C.
Hiawatha Oil Co. No. 5-A Smith, Blk. 35, Sheppard Farm Lots. Drlg. 5,236 ft.
Houston Oil Co. No. 4-A Harrell, Blk. 28, Sheppard Farm Lots. Sd. 4,843-48 ft.; set csg., lnr. and screen.
Houston Oil Co. No. 27 Morgan, sec. 7, Rge. 6. Cg. 4,553 ft.
Houston O. Co. No. 6 Walton, Villareal Sur. Cg. 4,857 ft.
H. H. Howell No. 5 Hutchins, 80-ac. tr., Sur. 416. Sd. 6,898-6,911 ft.; set csg.; perf. 6,698 ft.; testing.
H. H. Howell No. 4 Morgan, sec. 415. Drlg. 5,811 ft.
Kepley Prod. Co. No. 5 Donnigan, 100-ac. tr., sec. 7, Rge. 6. Cg. sd. 4,428 ft.
Morgan & Chapman Minerals Corp. No. 7 Morgan, NE¼, Sur. 405. Sd. 6,690-6,708 ft.; tstd. oil; set csg.; perf. 6,700-03½ ft.; reperf. 6,701-04 ft.; cleaning.
Phillips Pet. Co. No. 1 Frank, 27.5-ac. tr. Sur. 500. Set csg. 5,864 ft. Perf. 5,775-78 ft.; flg. in pits making dist.
Phillips Pet. Co. No. 3 Perkins-LaGasse, 40-ac. tr., Stevens Sur. A-406. Drlg. 6,836 ft.
Port O. & G. Co. No. 3 Cox & Cryder Sd. 3,814-28 ft.; set csg. 3,851 ft.; stdg.
Potter & Snowden No. 1 Taggert, Blk. 5, Sur. 401. S.D. 6,004 ft.
Renwar & Maryland No. 1-A Rand Morgan, Sur. 415. O.W.W.O.; old T.D. 5,825 ft. Sd. 6,687-92 ft. Tested high grav. oil; stdg. 6,865 ft.
Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.
Richardson Pet. Co. No. 2 Erwin, Sur. 500. Set csg. 6,956 ft.; W.O.C.
Richardson Pet. Co. No. 7 Sedwick, 124-ac. tr., Sur. 311. Cg. 6,347 ft.
Richardson Pet. Co. No. 8 Sedwick, 184-ac. tr., Sur. 312. Set sur. csg.; W.O.C.
Richardson Pet. Co. No. 9 Sedwick, Dunn Sur. 312. Drlg. plug in sur. csg.
Richardson Pet. Co. No. 11 Quiros, Sur. 311. Sd. 5,820-35 ft.; perf. 5,825-30 ft.; comp.; no gauge.
Shell Pet. Corp. No. 5 Flato, Blk. 3, Sheppard Farm Lots. Set csg. 4,546 ft.; W.O.C.
Southern Minerals Corp. No. 4 Elder, 60-ac. tr., Villareal Gr. Drlg. 4,021 ft.
Southern Minerals Corp. No. 4 Harrell, Blk. 19, Sheppard Farm Lots. Set 10-in. csg. 1,115 ft.
Southern Minerals Corp. No. 6 Isensee, Sur. 404; (W.O.). R.U.; old T.D. 6,290 ft. washing to bttm.
Texon Drlg. Co. No. 7 Carter-Ocker-Till, 200-ac. tr., Sur. 316. Sd. 4,440-48 ft.; comp.; 150 B.P.D.
Texon Drlg. Co. No. 8 Kocurek, 156-ac. tr., Sur. 316. Drlg. 3,600 ft.
Texon Drlg. Co. No. 1 Ocker, Surs. 402 and 316. Cg. 4,387 ft.
Texon Drlg. Co. No. 6 Ocker, 174.21-ac. tr., Surs. 402 and 316. Drlg. 3,021 ft.

Sullivan—Nueces County

Lockhart et al No. 1 O. Purl, Lot 2, sec. 7, Ross Peters Subd. No. 2. Cg. 7,052 ft.

Taft Field—San Patricio County

Humble O. & R. Co. No. 25 Mayo, Ottman Sur. Drlg. sh. 4,345 ft.

White Point—San Patricio County

Pan American Prod. Co. No. 1 White Point Dev. Co., 100-ac. tr., Wm. Bell Sur. T.D. 4,117 ft.; S.D. repairs.

Barbacoas—Starr County

K. E. Merren No. 1-A S.C.C.C., Blk. 34, Lambeth Subd., Porc. 89. Set csg. 5,417½ ft.; shut in; W.O. equip.; C.I.C.P. 2,560 lbs.; flowed 25 B.P.D. dist. on 5/32-in. ck.; sanded up; killed to rewrk.

Los Olmos—Starr County

R. M. Mitchell No. 1 Bass, Blk. 6, Sur. 8. Drlg. 286 ft.

Ricaby—Starr County

Carter-Stiernberg No. 1 Vela, Lot 1, Blk. 4, El Tanque Subd., Porc. 84. Drlg. 1,506 ft.
Carter & Stiernberg No. 2 Vela, Porc. 85. Drlg. 205 ft.

El Tanque—Starr County

Dodd, Trustee No. 4 Wood Est., Porc. 84. S.D. 750 ft.
Sun Oil Co. No. 1 Wardner Est., W2/7, Porc. 84. S.D. 1,762-75 ft. Set csg. 1,767 ft.; T.D. 1,780 ft.; comp.; 144 B.P.D. on pmp.
Sun Oil Co. No. 2 Wardner, W 2/7, Porc. 84. Set csg. 70 ft.; W.O.C.

Roma—Starr County

Texas Co. No. 6-A Guerra, Sh. 305-D, Porc. 67. Drlg. sh. 1,035 ft.

Bruni-Cole—Webb County

Bridwell O. Co. No. 1 Benavides, Sur. 691. Cg. 2,823 ft.
Cole Pet. Co. No. 100 Benavides, Blk. 11, sec. 412. S.D. 2,900 ft.; W.O.O.
J. B. Cutbirth No. 1 Bruni, Blk. 5, Sur. 8. R.U.
Highland Oil Co. No. 3-B Bruni, Surs. 7 and 8. Drlg. 1,579 ft.
O. W. Killam No. 54 Bruni, Blk. 14, sec. 8. Drlg. 2,556 ft.
L. H. Pitkin No. 1 Bruni, Blk. 4, Sh. 8. S.D. 3,435 ft.; W.O.O.

Killam—Webb County

C. H. Baily No. 2 Garcia, Sur. 768. Drlg. sh. 850 ft.
Humble O. & R. Co. No. 2 Laurel, Sur.

333. Sd. 2,019-27 ft.; comp.; 132 B.P.D.
Humble O. & R. Co. No. 3 Laurel Bros., Sur. 333. Drlg. sh. 1,016 ft.
R. Killam No. 2 Garcia, Sur. 1099. S.D.; R.U.
O. W. Killam No. 7 Garcia, N½ Sur. 786. R.U.
Eugene Mays No. 1 Garcia, 120-ac. tr., Sur. 786. Loc.

Lopez—Webb—Duval Counties

Valley Osage Oil Co. No. 5 M. Billings, Sur. 109. R.U.

O'Hern—Webb County

Magnolia Pet. Co. No. 2 Benavides, Sur. 172, Garza Sur. Drlg. 2,856 ft.
Magnolia Pet. Co. No. 8 Benavides, Blk. 32, O'Hern Subd. Drlg. 3,197 ft.
J. J. O'Hern No. 6-C Benavides, Blk. 30, O'Hern Subd. Drlg. 1,482 ft.
Peggy-Sue Oil Co. No. 2 Benavides, Blk. 23. Drlg. 856 ft.
Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.
Sun Oil Co. No. 1-A Benavides, Blk. 10, Hale Subd. Drlg. 3,256 ft.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, Sh. 64, Carricitos Gr. (W.O.); set csg. 7,630 ft.; T.D. 10,286 ft.; P.B. 7,556 ft.; milling junk.

Byersville—Williamson County

Ben Pearce No. 1 Mattick, H. White Sur. Drlg. Taylor 766 ft.

Escobas—Zapata County

Earl Calloway No. 7 Bustamente, Sh. 8, Fansler Part. T.D. 1,320 ft.; W.O. pmp.
Nordan & Morris No. 26 Bustimente, Sh. 33, Fansler Part. Drlg. 1,187 ft.
Starr Dev. Co. No. 1 Garza, Blk. 34, Douglas Subd. Cg. 1,427 ft.
Texas Co. No. 101 Jennings, Cerrito Blanco Gr. Set csg. 1,247 ft.; comp.; 40 B.P.D.; T.D. 1,247 ft.
Texas Co. No. 102 Jennings, Cerrito Blanco Gr. Drlg. 65 ft.

E. C. TEXAS WILDCATS

Anderson County

Humble O. & R. Co. No. 1 Mrs. S. Hassell, J. Beard Sur., 2 mi. N of Jarvis Loc.

Bowie County

Chew & Bassett No. 1 Barkman. S.D. 2,851 ft.
Ferguson & Hill No. 1 Breckenridge. S.D. 2,765 ft.
Woodley & Bently No. 1 Lumpkin. Drlg 4,515 ft.

Falls County

H. H. Bell et al No. 1 A. Garrett, J. M. Sanches Sur. Top Edwards 1,469 ft.; T.D. 1,516 ft.
E. B. Collard et al No. 1 P. Neikamp, W. Hampton Sur., 3 mi. E of Lott. S.D. 280 ft.

Freestone County

Pansey Oil Co. No. 1 R. B. Longbotham, 330 ft. N and W. in NW part of Wortham, in G. E. Weaver Sur. Loc.
C. E. Rossiter No. 1 J. P. Fulton in J. P. Fulton Sur., 2½ mi. E of Donie. S.D. 956 ft.
Stroude et al No. 1 P. Mullens, R. D. Sloar Sur., 6 mi. NE of Fairfield. T.D. 341 ft.

Henderson County

R. J. Paschal No. 1 H. M. Wilson, Thos. Caro Sur., 4½ mi. N of Malakoff. Loc.
Tide Water Assoc. et al No. 2-C McEl[illegible]ath & Suggett, W. P. Wyche Sur Top Woodbine 4,450-70 ft.; Georgetown 5,070 ft.; 9⅝-in. csg. at 5,133 ft.; drlg. 5,500 ft.

Hill County

A. N. Mabry No. 1 M. Holderman, C. Sullivant Sur., 1 mi. S of Mt. Calm. S.D. 680 ft.

Houston County

American Liberty Oil Co. No. 1 W. L. Moody, S. E. Parker Com[illegible] mi. NW of Grapeland. W.O.C. 6,185 ft.

Hunt County

Stanolind O. & G. Co. No. 1 [illegible] P. Howl. R. Ragsdale Sur., near Campbell. Travis Peak 5,965 ft.; T.D. 6,570 ft.; fsg.

Limestone County

Pure Oil Co. No. 16-T Kendrick, P. V[illegible] rella Sur., Mexia field. Top Anhy. 5,000 ft.; fsg. 5,646 ft.

Red River County

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt C 40-ac. tr. in D. Hart Sur., 2 mi. S. of Avery. S.D. 410 ft.
Texas Trading Co. No. 1 Southern Pine Lbr. Co., 2,750 ft. E and 3,933 ft. N line of D. D. Bruton Sur., 12 mi. N of Clarksville. Loc.

Rusk County

Barnett Pet. Corp. No. 1 S. C. Sanford W. A. Corder Sur., 10 mi. E of Mt. Enterprise. Georgetown 3,275 ft.; drlg. 5,282 ft.
General Crude and others No. 1 Bivins Est., R.U. R. Williams Sur., 6 mi., N of Latum. S.D. 955 ft.
J. Merrick et al No. 1 Tipps, T. Uzzell Sur., 6 mi. S of East Texas field. Top sd. 3,886 ft.; S.D. 3,890 ft.
Nivia Oil Co. No. 1 Citizens Natl. Bank, M. D. Carmel Sur. 2½ mi. SE of Henderson. W.O.C. 303 ft.
J. W. Shipman et al No. 1 Citizens Bank, J. J. Y'Barbo Sur., 4 mi. NE of Henderson. S.D. 4,340 ft.

Upshur County

F. W. Maddox No. 1 S. T. Buie, J. M. Dunn Sur., 4 mi. E of Gilmer. Austin 3,629 ft.; top Woodbine 3,717 ft.; T.D. 3,751 ft.; to P.B. and perf.

Van Zandt County

Humble O. & R. Co. No. 1 L. K. Riggs, W. Daniels Sur. Skidded 100 ft.; top Austin 2,805 ft.; top Georgetown 3,675 ft.; D.S.T. showed S.W. and color of oil 5,465-5,546 ft.; T.D. 5,627 ft.

EAST TEXAS

(Border Counties)

Bowie County

Sutton & Hawkins No. 1 D. L. McDuffey, John Bell Sur. Drlg. 5,322 ft.
Ferguson & Hill No. 1 A. V. Breckenridge, Nancy Dycas Sur. T.D. 2,731 ft.; D.S.T. showed mud and show oil.
Woodley & Bentley No. 1 J. D. Lumpkin, J. McDermott Sur. Drlg. 4,345 ft.

Cass County

American Lib. Oil Co. No. 2 E. T. Tyson Cass Sch. Ld. Sur. 7-in. 6,033 ft.; T.D. 6,040 ft.; W.O.C.S.
Bay Oil Corp. No. 1 W. R. Cobb, G. Crowder Sur. Drlg. 2,240 ft.
Bay Oil Corp. No. 1 W. B. Parker, G. Crowder Sur. Drlg. 2,370 ft.
G. H. Chamblee No. 1 Collett, J. S. Smith Sur., 20-ac. tr. Drlg. 5,247 ft.
Gulf Prod. Co. No. 1 W. T. Henry, H. Owens Sur., NW cor. Sur. Comp.; flw. 171 B.P.D.; T.D. 5,932 ft.
Magnolia Pet. Co. No. 3 W. M. Hall, Wilson Robinson Sur. Drlg. 3,950 ft.
Magnolia Pet. Co. No. 7 W. M. Hall, J. N. Jackson Sur. Drlg. 5,890 ft.
Magnolia Pet. Co. No. 18 L. Haywood, P. Evans Sur. T.D. 6,031 ft.; shooting and tstg.
Magnolia Pet. Co. No. 20 L. Haywood, P. Evans Sur. Comp.; flw. 542 B.P.D.; T.D. 6,049 ft.
R. W. Norton No. 4 Davis, H. Holbert Sur. Drlg. 100 ft.
R. W. Norton No. 5 Davis, H. Holbert Sur. Comp.; flw. 336 B.P.D.; T.D. 5,995 ft.
R. W. Norton No. 5 J. T. Moore, J. S. Smith Sur. 6-in. 5,997 ft.; T.D. 6,004 ft.; W.O.C.S.
R. W. Norton No. 8 Davis, H. Holbert Sur. Drlg. 300 ft.
R. W. Norton No. 1 W. & E. Starke, Dudley Gilliam Sur. Drlg. 3,600 ft.
Ohio Oil Co. No. 19 R. P. Willis, S.F.I.W. Sur. Drlg. 5,320 ft.
W. G. Ray Drlg. Co. No. 2 Parker, G. Crowder Sur. Drlg. 2,170 ft.
Texas Co. No. 4 N. A. Rambo, Cass Cty. Sch. Ld. Sur. Comp.; flw. 381 B.P.D.; T.D. 6,068 ft.
United Prod. No. 2 Allday, 87-ac. tr. 7-in. 5,851 ft.; T.D. 5,920 ft.; W.O.C.S.
United Prod. Co. No. 3 Allday, P. Evans Sur. Drlg. 3,925 ft.
United Prod. No. 6 Haugus Unit, R. Trammel Sur. T.D. 5,920 ft.; dry; W.O.
United Prod. No. 2 Belote, H. Holbert Sur. Comp.; flw. 203 B.P.D.; T.D. 6,005 ft.
United Prod. Co. No. 1 fee, H. Holbert Sur. 13-in. cmt. 355 ft.
United Gas No. 1 Threwer, J. S. Smith Sur. T.D. 6,040 ft.; stdg. H.F.W.

Harrison County

Jever Oil Co. No. 2-B Vincent Davenport Sur. T.D. 2,392 ft.; W.O.S.R.

Marion County—Rodessa

Arkansas-La. Gas Co. No. 1 Allen Houston, A. D. S. Coy Sur. Drlg. 5,915 ft.
Arkansas-Louisiana No. 1 C. C. Braden T. Hanson Sur. TD. 6,872 ft.; P.B. to 5,970 ft.; arg. tst.
Arkansas-La. Gas Co. No. 1 J. P. Fant, L. P. Cadenhead Sur. Drlg. 2,476 ft.
Fohs Oil Co. No. 1 Mary Reynolds, A. D. S. Coy Sur. Drlg. 4,567 ft.
Hunter Co. No. 2 Fonda, A. D. S. Coy Sur. T.D. 6,095 ft.; rg. 7-in.
Mid-Continent Pet. Corp. No. 1 Sory, A. D. S. Coy Sur. Drlg. 4,987 ft.

Panola County

Glassell & Glassell No. 1 Pierce & Chesbro, Julia Soape Sur. Drlg. 5,410 ft.
Magnolia Pet. Co. No. 2 E. A. Hull, Thos. Applewhite Sur. Drlg. 6,295 ft.

Shelby County

Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. T.D. 4,109 ft.; flow gas and oil on test after acid; tstg.

WEST TEXAS WILDCATS

Andrews County

Amerada Pet. Corp. No. 1 L. Lippman, sec. 6, Blk. A-29, P.S.L. Sur. Top Yates 2,910 ft.; drlg. 4,079 ft.
W. G. Blanchard et al No. 1 Cox, C SW sec. 4, Blk. A-30, P.S.L. Sur. Drlg. 2,367 ft.
M. J. Delaney No. 1 E. P. Moore, 440 ft. S and 2,200 ft. W. sec. 12, Blk. A-20, P.S.L. Sur. Drlg. 115 ft.
Drlg. & Expl. Co. No. 1 Thornberg, 330 ft. S and E, NW¼ sec. 8, Blk. A-42, P.S.L. Sur. Loc.
M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. R.U.
Sinclair Prairie Oil Co. No. 1 Emma Cowden, sec. 11, Blk. 44, Twp. 2n, T.&P. Sur. S.D. 3,962 ft.
Hargrove et al No. 1 Riordan, NW¼, sec. 10, Blk. A-44, P.S.L. Sur. Top Salt 2,080 ft.; drlg. 2,320 ft.
Humble O. & R. Co. No. 2 Walker, sec. 6, Blk. A-43, P.S.L. Sur. Drlg. 3,679 ft.
Landreth Prod. Co. No. 1 L. Jones, sec. 11, Blk. A-42, P.S.L. Sur. Fsg. 4,416 ft.

Bailey County

Etz & Robinson No. 1 Enochs, Tract 66, League 182, Floyd Co. School Lands Sur. R.U. mach.
E. L. Wilson et al No. 1 Yellow House Land Co., Labour 4, Abner Taylor Lge. 700. Elev. 3,687 ft.; T.D. 4,497 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd. sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 4,880 ft.
Storey No. 1 Wilson, sec. 3, Blk. 212, T.&St.L. Sur. S.D. 2,340 ft.

Cochran County

Englewright & Fogelson No. 1 Houston. W.O.C. 4,807 ft.
Pete Wiggins et al No. 1 C. Slaughter Dean, C Lab. 28, League 92, Lipscomb C. Sch. Ld. R.U.R.

Coke County

H. E. Ogden et al No. 1 Rawlins, sec. 390, Blk. 1-A, H.&T.C. Sur. S.D. 515 ft.
Plymouth Oil Co. No. 1 Mrs. Mary Hanna, sec. 252, Blk. LA, H.&T.C. Sur., 1½ mi. SW of Blackwell. Lowering csg. 3,097 ft.

Crane County

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 5,404 ft.; P.B. 3,510 ft.; W.O.C.

Crockett County

R. H. Henderson No. 1 C. B. Haun et al. Machine.
Superior Oil Co. of Calif. No. 1 J. S. Todd, C SE¼ sec. 55, Blk. UV, G.C.&S.F. Sur. Drlg. 6,651 ft.

Dawson County

E. L. Wilson No. 1 Scanlon, Sec. 83, Blk. M. E.L.R.R. Sur. Drlg. 234 ft.

Edwards County

A. P. Carter No. 1 F. D. Sweeten, S&E sec. 48, Blk. 2, B&B Sur., 1½ mi. E of Rock Springs. S.D. 700 ft.

Ector County

Fuhrman Pet. Corp. No. 1 E. Cowden, sec. 41, Blk. 43, Twp. 2s, T.&P. Sur. M.I.M.
Shasta Oil Co. No. 1 K. Sands, sec. 32, Blk. 44, T.&P. Sur. Loc.

Fisher County

Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. T.P. 3,192 ft. S.D. 3,194 ft.; pumped and flwd. 4 B.P.H.
Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. T.D. 3,505 ft.; shut in.
Tide Water Associated Oil Co. No. 1 Joe Robinson, W½ NE¼ sec. 172, Blk. 2, H.&T.C. Sur. Drlg. 2,212 ft.

Gaines County

Amerada Pet. Corp. No. 1 A. Faskin, sec. 160, Blk. G, W.T.R.R. Sur. S.D. 4,950 ft.
Amerada Pet. Corp. No. 1 Matthews, sec. 417, Blk. G, C.C.S.D.&R.G.N.G. Sur. Drlg. 2,922 ft.
A. G. Carter No. 1 A. L. Wasson et al sec. 48, Blk. AX, P.S.L. Sur. T.D. 4,959 ft.; flwd. 330 bbls. through ¾-in. ck.
Carter et al No. 1-B Wasson, sec. 47, Blk. AX, P.S.L. Sur. R.U.R. 165 ft.
A. G. Carter et al No. 1 Moore-Langdon, sec. 44, Blk. AX, P.S.L. Sur. Drlg. 3,457 ft.
Continental O. Co. No. 1 Jones, sec. 22, Blk. A-7, P.S.L. Sur. Drlg. 4,771 ft.
Continental Oil Co. No. 1 Moore, sec. 46, Blk. AX, P.S.L. Sur. R.U.R.
T. N. Sloan et al No. 1 Barber, NE cor. sec. 19, Blk. A-28, P.S.L. Sur. Drlg. 4,200 ft.
Wentz Oil Co. No. 1 Dalmont, sec. 5, Blk. A-22, P.S.L. Sur. Drlg. 4,835 ft.

Garza County

S Caprito No. 1 Post Estate, sec. 230, Blk. 5, K. Aycock Sur. T.D. 3,608 ft.; P.B. to 3,150 ft.; S.D.

Glasscock County

Moore Bros. No. 1 King, sec. 46, Blk. 36, Twp. 1s, T.&P. Sur. Drlg. 1,110 ft.

Hockley County

R. F. Duggan et al No. 1 Yellow House Land Co., cen. Labour 11, League 718 State Capitol Lds. Drlg. 3,943 ft.
Stanolind O. & G. Co. No. 1 A. A. Slaughter, C SW¼ Labour 76, League 37, Zavalla Co. Sch. Lds. Sur. Drlg. 1,975 ft.

Howard County

Iron Mt. Oil Co. No. 1 D. H. Snyder, sec. 28, Blk. 30, Twp. 1s, T.&P. Sur. Drlg. 1,000 ft.
W. F. McDermott et al No. 1 Lucas, sec. 18, Blk. 29, Twp. 1n, T.&P. Sur., 5 mi. N of Dodge pool. Loc.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Fsg. 3,076 ft.

Jeff Davis County

H. D. Wilcox et al No. 1 Jones-Coffield. Drlg. 1,817 ft.

Loving County

Barnett Pet. Co. No. 1 Johnson, sec. 2, Blk. 57, Twp. 1, T.&P. Sur. S.D.
Barnett Pet. Corp. No. 2 W. D. Johnson, sec. 12, Blk. 58, Twp. 1, T.&P. Sur. Drlg.
Finley et al No. 1 W. D. Johnson, sec. 24, Blk. 56, Twp. 1, T.&P. Sur. Top sand 3,614 ft.; S.D. 3,668 ft.
Stanolind O. & G. Co. No. 1 M. Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. P.B. to 3,946 ft.; T.D. 3,984 ft.; pmpg.
Woodley Pet. Co. No. 1 Kion, sec. 21, Blk. 55, Twp. 1, T.&P. Sur. S.D. 877 ft.

Mitchell County

Grisham-Hunter Corp. No. 1 Morrison, sec. 34-29-1n, T.&P. Sur. Drlg. 2,372 ft.
Mitchell O. & G. Co. No. 1 Z. Morrison, sec. 36, Blk. 29, Twp. 1n, T.&P. Sur. W.O.C. 2,034 ft.

Pecos County

Cannon & Cannon No. 1 University, sec. 2, Blk. 20. Drlg. 1,026 ft.
Dobbs No. 1 University, sec. 30, Blk. 18. Drlg. 1,700 ft.
Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk. 11, G.H.&S.A. Sur.; 5,000-ft. test. Top Del. L. 5,010 ft.; drlg. 5,860 ft.
K. Kimberlin No. 1 Humble-Young, sec. 49, Blk. 10, H.&G.N. Sur. S.D. 895 ft.
W. Y. Penn No. 1 Tipton, sec. 85, Blk. 8, H.&G.N. Sur. Drlg. 2,200 ft.
Phillips Pet. Co. No. 1 Grierson, 2,310 ft. S and 330 ft. E, sec. 71, Blk. OW, T.C. R.R. Sur., 10 mi. NW of Fort Stockton. R.U.R.
G. J. Smith No. 1 W. E. Smith, sec. 37, Blk. 1, I.&G.N. Sur. Drlg. 1,312 ft.
Tex-Mex Pet. Co. No. 1 Williams, sec. 79½, Blk. 8, H.&G.N. Sur. T.D. 1,315 ft.; U.R. csg.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 5,133 ft.
Trans-Pecos Oil Co. No. 1 Gallagher, sec. 9-51-10, T.&P. Sur. S.D. 1,475 ft.
Trans-Pecos Oil Co. No. 1 Popham, S.D. 535 ft.
Young No. 1 Perry, sec. 3, Blk. Z, T.C. R.R. Sur. Drlg. 1,500 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 3,502 ft.
A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. No report.
Sadler Bros. et al No. 1 Bagley, S.D. 3,315 ft.

Reagan County

K. E. Sherman No. 1 W. E. Friend, SW cor. sec. 3, Wm. Allen Sur. T.D. 1,055 ft.; U.R. csg.
Moore Bros. No. 1 University, sec. 8, Blk. 7. Spudded and S.D.

Reeves County

Barnett Pet. Corp. No. 1 Ely, sec. 38, Blk. 71, P.S.L. Sur., 12 mi. NW of Toyah. S.D. 395 ft.
General Crude Oil Co. No. 1 T. P. Land Trust, C NE¼ sec. 15, Blk. 56, Twp. 2, T.&P. Sur. Spdg.

Runnels County

Hall Oil Co. No. 1 Beddo, sec. 51, Thompson Casey Sur. R.U.R.
K Z Oil Co. No. 1 B. Fletcher, E. C. Good Sur. S.D. 750 ft.
Price & Kramer No. 1 Giesecke, Blk. 227 Hughes Sur. S.D. 2,503 ft.
Stevens & Glover No. 1 Fowler, sec. 150 E.T.R.R. Sur., 2 mi. NE of Ballinger. S.D. 480 ft.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. Drlg. 2,026 ft.
Tex-Tor Oil Corp. No. 1 Judkins & Spencer, C of SW¼ sec. 33, Blk. A, A.&B Sur. T.D. 1,260 ft.; pulled csg.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T.C. Sur. S.D. 3,167 ft.
C. W. Guthrie et al No. 1 F. W. Hardee, sec. 99, Blk. 97, H.&T.C. Sur. S.D.

Terry County

Anthony & Rice No. 1 Brownfield, C NW¼ sec. 28, Blk. A-1, E.L.R.R. Sur. R.U.R.
Crump & Corrigan No. 1 Lewright, 660 ft. NE. sec. 1, Blk. C-37, P.S.L. Sur. T.D. 5,133 ft.; B.P. to 4,996 ft.
R. L. Foree No. 1 A. E. Pool, sec. 54, Blk. D-11, D.&S.E. Sur. S.D. 3,533 ft.

Upton County

Maverick Oil Co. No. 1 Holmsley, 330 ft. N and 990 ft. E, sec. 16, Blk. B, C.C. S.D.&R.G.N.G. Sur., 14 mi. NE of Rankin. R.U.M.

Ward County

F. H. Murphy et al No. 1 Monroe, sec. 210, Blk. 34, H.&T.C. Sur. Drlg. 1,478 ft.
Magnolia Pet. Co. No. 1-55 Sealey, sec. 55, Blk. F, G.M.M.B.&A. Sur. T.D. 3,049 ft.; P.B. to 2,756 ft.
L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. Top Del. L. 4,635 ft.; top Del. sd. 4,670 ft.; S.O. 4,690 ft.; T.D. 4,700 ft.; P.B. 4,698 ft.; C.O. to shoot.

Yoakum County

Bahan et al No. 1 Shook Est., sec. 420, Blk. D, John H. Gibson Sur. Top lime 4,570 ft.; W.O.C. 5,296 ft.
Magnolia Pet. Co. No. 1 Mrs. M. E. Taylor, sec. 201, Blk. D, John H. Gibson Sur. Elev. 3,607 ft.; drlg. 4,671 ft.
Moore Bros. No. 1 Cleveland, sec. 706, Blk. D, J. H. Gibson Sur. Loc.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

Garland Moore et al No. 1 T. S. Williams, 1 mi. NE Grosvenor, Sec. 40, H.T.&B. Sur., Abst. 2037. Spdg. & S.D.

West Texas O. & R. Co. No. 1 J. P. Newton, 3 mi. S Cross Cut. W. L. Swain Sur. No. 145. Sdy. L. 1,320-28 ft.; T.D. 1,342 ft.; shot with 20 qts.; C.O.

Callahan County

Hal Hughes No. 1 Poindexter, 330 ft. fr. N&E of sec. 350, Geo. Hancock. Sur. 2 mi. NE of Oplin. Drlg. 450 ft.

J. C. Jackson et al No. 1 Thompson, 2 mi. S. Eula, sec. 30, B.B.B.&C. Sur. Drlg. 522 ft.

B. A. Wilkinson, Trustee, No. 1 F. L. Martin, sec. 69, T.&P. Sur., Blk. 14. Drlg. 1,560 ft.

Coleman County

Dixie O.&G. Co. No. 1 Reaves, 6 mi. NW Bangs, J. M. Rhine Sur. No. 629. S.D. 805 reprs.

Comanche County

N. D. Gallagher et al No. 1 Mrs. B. I. Terry, Desdemona pool, N. H. Kuykendall Sur. Skd. 10 ft. N; drlg. 2,450 ft.

Eastland County

Barnett Pet. Corp. No. 1 Downtain, 1½ mi SE of Eastland, sec. 2, E.T.R.R. Sur., Blk. 6. O.S. 1,440-50 ft.; est. 2 bbls per hr.; cmtd. 6⅝-in. 1,440 ft.; sd. 1,465-83 ft.; est. 35 bbls.; tstg.

Barrett & Moon No. 1 Foote, 4 mi. NE Carbon, sec. 9, H.&T.C. Sur., Blk. 2. Spd. and S.D.

Monark O. & G. Co. No. 1 Downtain, sec. 14 H.&T.C. Sur. Blk. 4, 3 mi. N Eastland. Drlg. 765 ft.

L. A. Thompson No. 1 C. V. Fox, 4½ mi. S of Ranger, Lot 28, McLennan Sur., Lge. S.D. 1,120 ft.

Erath County

Jess Hickey et al No. 1 W. M. Martin, 2 mi. SE Desdemona, D. J. Otho Millard Sur. A-533. Drlg. 1,200 ft.

Haskell County

E. W. Marland & H. B. Drake No. 1 Corothers, 6 mi. S Haskell, sec. 67, D. E. Zaaz Sur. Loc. for 2,700 ft. cable tool test; material.

Jones County

Art Cox No. 1 West, 10 mi. E Noodle Creek pool, Lot 72, Godwin Subd., Dewitt Co. Sch. Lds. Drk.

Fain & McGaha Oil Corp. No. 1 Eula G Lucas, B.B.B.&C. Sur. Drlg. 1,950 ft.

Fain & McGaha Oil Corp. No. 1 J. H. Wheeler, 3 mi. NW Sandy Ridge pool sec. 55, O.A.L. Sur.

Humble O. & R. Co. No. 1 Teaff Est., E S and W of NE¼ sec. 33, T.&P. Sur Blk. 18. Loc. for 5,600-ft. Ordovician test; drlg. 1,276 ft.

T. D. Humphrey No. 1 Radford, 3 mi. S Hawley, sec. 38, T.&P. Sur., Blk. 16. Drlg. 3,460 ft.

Iron Mountain Oil Co. No. 1 Olander, 3 mi. E Avoca. 220 ft. fr. N & E of SW¼ sec. 196, B.B.B.&C. Sur. Gr. porous L. 3,238-44 ft.; S.G. 3,240 ft.; oil 3,242-44 ft.; made flow after stdg. over night; set csg. to test.

S. B. Owens et al No. 1 Galbreath, ½ mi. S of Guitar pool, 220 ft. N and 1,820 ft. W, sec. 45, T.&P. Sur., Blk. 15. Spdg.

Owens-Snebold Oil Corp. No. 1 J. L. Herndon, 2 mi. SW Anson, S.P.R.R. Sur., Blk. 2. T.D. 2,028 ft. in cavey L.; rng. 6⅝-in. csg.

Frank Oyster et al, 1 mile S Nugent, 2,100 ft. from N and 200 ft. from W of sec. 11, T.&P. Sur., Blk. 4. Rng. 8¼-in. 1,150 ft.

W. H. Peckham No. 1 Davis et al, 3 mi. SW Lueders. Subd. 8, F. M. Smith Sur. No. 3. Drlg. 1,600 ft.

Riddle et al No. 1 J. D. Freeman, 8 mi. SW Anson, sec. 6, T.&P. Sur., Blk. 17. S.D. 2,300 ft.

Southern Oil Co. No. 1 B. W. Thane NE cor. County. Andrew Jones Sur. 114. Drlg. 875 ft.

L. B. Tannehill et al No. 1 Willis, 2 mi. NW Sandy Ridge pool, sec. 2, J. C. Patton Sur. Drlg. 1,010 ft.

Texas Inland Oil Co. et al No. 1 Rowell, 5 mi. E Anson, sec. 37, O.A.L. Sur. Drlg. 1,360 ft.

Palo Pinto County

Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572, T.E.&L. Sur. S.D. 470 ft.

Henry Hobbs et al No. 1 Bessie Holt, 4 mi. S. Graford, sec. 1,783, T.E.&L. Sur. S.D. 200 ft.

Earnest Lloyd et al No. 1 Bailey, 3 mi NE Graford, sec. 2,003, T.E.&L. Sur. S.D. 1,802 ft.

Shackelford County

Ben Banner No. 1 Dawson & Conway, 4 mi. NE Morris-Bule pool, C NW¼ of SE¼ sec. 176, E.T.R.R. Sur. Sand 1,349-55 ft.; prep. to test; drlg. 1,582 ft.

Humble O. & R. Co. No. 4 Geo. DeLafosse, E C line county, sec. 1550, T.E.&L. Sur. Drlg. 3,126 ft.

M. P. Moore et al No. 1 Geo. Gray, W side Bluff Creek pool, sec. 208, E.T.R.R. Sur. S.D. 1,675 ft.

Stephens County

Barnett Pet. Corp. No. 1 J. O. Corbett, 4 mi. SE Ivan, sec. 3, S.P.R.R. Sur., Blk. 3. Lost hole 970 ft.; skidded 15 ft. N; drlg. 600 ft. on new hole.

Clark & Cowden et al No. 2 Echols Heirs, Blk. 3. Drlg. 2,675 ft.

Cox & Caprito No. 1 Donnell, 1 mi. SW Eliasville, sec. 1,208, T.E.&L. Sur. Rigging up standard tools.

O. J. Perren No. 1 J. K. P. Hughes, NE cor. County of NW¼ sec. 6 A.B.&M. Sur., Abst. 2,683. Top Caddo 3,352 ft.

Philtop O. & G. Co. No. 1 T. M. Corbett, 8 mi. NE Caddo, Edward Romershausen Sur., Abst. 149. Drlg. 3,850 ft.

W. J. Rhodes No. 1 Black Bros., 8 mi. NE Breckenridge, sec. 1,135, T.E.&L. Sur. Rigging up.

Stonewall County

General Crude Oil Co. No. 1 W. J. Bryan, 7 mi. N Hamlin, Subd. 10, Wm. Vardeman Sur. No. 347. Drlg. 2,950 ft.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis 2 mi. S Arlington, H. Blackwell Sur S.D.O. 2,140 ft.

Throckmorton County

G. C. Foster No. 1 Brown, 4½ mi. NW of Woodson, 150 ft. N and W lines, SW¼ sec. 929, T.E.&L. Sur. Gas sd. 918-21 ft.; est. 4,000,000 ft. gas; set 6-in.; W.O.C.

Long & Bedner No. 1 Everett, 9 mi. S Throckmorton, 1,836 ft. fr. S & 400 ft. fr. W of sec. 1,615, T.E.&L. Sur. Set csg. 4,180 ft.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E of Bridgeport, Jas. Couch Sur. Drlg. 2,950 ft.

NORTH TEXAS WILDCATS

Archer County

O. P. Darsey No. 1 J. T. Longley, sec. 1839, T.E.&L. Sur. S.D.O. 880 ft.

Clay County

Foster Minerals Corp. No. 1 V. H. Yarbrough M. Lassiter Sur. A-288. Drlg. 2,990 ft.

W. Cant No. 4 C. M. Worsham, sec. 38, G. P. Meade Sur. Drlg. 1,890 ft.

Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. S.D.O. 3,297 ft.

Sussex Oil Corp. No. 1 C. J. Shumake, H. Frost Sur. A-151. Drlg. 1,100 ft.

Collin County

F. Jones No. 1 Sherley, G. Morrison Sur S.D.O. 3,003 ft.

Cooke County

L. A. McWhirter, tr., No. 1 W. J. Davidson, Geo. Dooley Sur. A-301. Drlg. 380 ft.

Seitz Comegys & Seitz No. 1 E. J. Dougherty, J. N. Harris Sur. A-1204. Drlg. 400 ft.

V. E. Powell No. 1 D. B. Allred, G. DeLoe Santos Sur. A-894. Drlg. 4,285 ft.

J. G. Richards et al No. 1 J. A. Yosten, T. Scott Sur. A-90. Fshg. one joint pipe.

Whitfield, Pearson & Grimes No. 1 C. F Bundy, P. P. Cary Sur. A-1239. P.B. to S.O. wtr.

Texas Co. No. 1 J. F. Marshall, A. Burns Sur. A-49. Cmt. 10-in. 3,687 ft.; W.O.C.

Denton County

California Ref. Co. No. 1 W. & S. Life Ins. Co., B.B.B.&C. Sur. A-783., S.S.O. 1,461-65 ft. 6⅝-in. 1,460 ft., W.O.C.

Oil Finance No. 1 J. S. Gambill. S.D.O. 2,380 ft.

Manning & Moore No. 1 Dora Ratchford, J. Walters Sur. T.D. 2,102 ft.; P.B. to test S.S.O. 1,945-60 ft.

Regan & Davis No. 1 Williams, M.E.P.&P Sur. A-927. Cem. surf. pipe and S.D.O.

Foard County

O. P. Burnham No. 1 Ward, sec. 21, H.& T.C. Sur., Blk. 8. Drlg. 1,630 ft.

Grayson County

Denver P. & R. Co. No. 1 McMenamy, J. Hertzog Sur. A-528. Drlg. 3,995 ft.

Mildred Oil Co. No. 1 F. R. DeCordova, H. Stewart Sur. A-1072. Drlg. 595 ft.

Jack County

F. S. Freeland No. 1 R. E. Graves, S. Hazel Sur. A-258. R.U.C.T.

Hill & Hill No. 1 W. O. Hickman, T. M. League, A-348. Drlg. 2,600 ft.

H. B. Madden No. 1 J. L. Mask, sec. 2708, T.E.&L. Sur. Sdy. L. 1,829-35 ft.; tstd. dry; S.D.O.

O. J. Murray No. 1 W. J. Easterly, J. Helenstutter Sur. A-1269. S.D.O. 110 ft.

R. A. Westbrook No. 1 Worthington-Knox, B.B.B.&C. Sur. A-185. S.D.O. 1,560 ft.

Knox County

Denver P. & R. Co. No. 1 Waggoner, sec 90, H.&T.C. Sur., Blk. E. Drlg. 3,602 ft.

Montague County

Lesh & McCall No. 1 Dodson, T. R. Jackson Sur. A-394. S.S.O. 3,145-53 ft.; drlg. 3,510 ft.

Montague Oil Co. et al No. 1 J. A. Brite, sec. 2882, T.E.&L. Sur. Drk.

J. W. Sorrell et al No. 1 J. E. Walthall, S. H. Smith Sur. A-662. S.D. 2,000 ft.

Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Repairing boilers; T.D. 3,220 ft.

Wichita County

Morgen & Anderson No. 1 C. A. Mertins sec. 2, G.C.&S.F. Sur. Pulling on 5-in. csg. stuck at 1,575 ft.

W. B. Omohundro No. 1 J. A. Kemp, Blk. 52, W.V.F.L. Sur. Loc.

D. G. Parker No. 1 fee, sec. 22, P.P.C.S.L. Sur. A-241. U.R. 6⅝-in. 1,300 ft.

Wilbarger County

J. B. Baker, Jr., No. 1 Waggoner A. sec. 7, H.&T.C. Sur., Blk. 4. Drlg. 900 ft.

Barry & Hayes No. 1 McGill, sec. 3, Blk. 9, H.&T.C. Sur. Drlg. 500 ft.

F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. Fsg. D.S.

W. W. McDonald No. 3 Waggoner A. sec

(Continued on Page 122)

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THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

PERSONAL

FREEMAN GOSDEN and CHARLES CORELL, the "Amos 'n Andy" of radio fame, accompanied by FRANK MORGAN and RALPH BELLAMY, screen stars, visited the Lisbon oil field of North Louisiana to witness the bringing in of a large producer on property in which all four are interested.

H. F. WORLEY, Tulsa, president of H. F. Worley, Inc., and of the Foundation Oil Company, said this week upon his return from the International Petroleum Congress in Paris that there is a possibility the 1940 congress may be held in Tulsa. Hotel accommodations present the principal problem, Mr. Worley said. Germany is Tulsa's chief rival for the 1940 meeting. It had more than 300 delegates at Paris. Great Britain, with more than 200 delegates, supported the invitation from Tulsa, which was presented by Dr. C. K. FRANCIS. France would like to be chosen again.

E. H. MOORE, independent oil operator of Tulsa, who, with MRS. MOORE, left for a European trip last April, is back at his desk. Mr. and Mrs. Moore were in London at the time of the coronation ceremonies.

W. B. HOGG, seismologist with the Stanolind Oil & Gas Company, discussed geophysics and its relation to the oil industry in a brief talk before the Wichita Falls Rotary Club Thursday. He illustrated his talk with seismograph charts from surveys in Clay County, Texas.

D. E. BUCHANAN, president of Hanlon-Buchanan, Inc., and E. I. HANLON, chairman of the board of the National Bank of Tulsa, and head of the Hanlon companies, are visiting Italy, Greece and the Holy Land after attending the International Petroleum Congress in Paris.

T. H. BARTON, president of Lion Oil Refining Company, of El Dorado, Ark., was a business visitor in New York last week. Colonel Barton is particularly enthusiastic about his company's prospects in the Schuler pool of Union County, Arkansas, where the concern controls approximately 7,000 acres.

JOSEPH JENSEN, of the Tide Water Associated Oil Company, has been reelected chairman of the Los Angeles, Potrero, Inglewood field committee and will continue to represent those fields as a member of the Central Committee of California Oil Producers. R. I. BROWN was elected vice chairman and V. H. WILHELM, secretary of the field committee.

V. E. COTTINGHAM, of the Texas Railroad Commission, has been placed in charge of the oil accounting department in Austin. OLIN CULBERSON, formerly in charge of that division, now is devoting his full time to gas utilities. CLINTON OWSLEY is to be his assistant, with HERMAN HEARD, valuation engineer, actively in charge of the accounting bureau.

H. E. MINOR, chief geologist for the Gulf Oil Corporation, in Houston, Tex., and his family, left for Colorado to spend a month's vacation.

T. P. MORGAN, oil operator of South Texas, has purchased a string of thoroughbreds from the stables of the Three D ranch, Fort Worth.

D. J. STEPHEN, land man of the Shell Oil Company in Los Angeles, is spending a vacation in Chester, England. He was in London for the coronation parade.

DON WEST, head of the natural gasoline department of the Magnolia Petroleum Company, in Dallas, Tex., is in Colorado for a vacation. His family is with him.

ALBERT PLUMMER, independent producer of Houston, Tex., left last week for Los Angeles, Calif., where he and his wife will sail for Honolulu on an extended vacation trip.

L. W. LeROY, formerly stationed at Los Angeles, Calif., with the Standard Oil Company of California, has been transferred to Batavia, Java, where he will be engaged in microfaunal work for Nederlandschi Pacific Petroleum Mij, a Standard subsidiary.

CHARLES P. ROESER, Fort Worth, Tex., president of the Independent Petroleum Association of America, has named the following as members of the association's public relations committee: BURDETTE BLUE, Bartlesville, Okla., chairman; F. M. PORTER, Oklahoma City; M. W. BLAIR, Wichita Falls, Tex.; ROLLA A. CLYMER, Eldorado, Kans., and E. L. SMITH, Dallas, Tex.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The Oklahoma and Kansas crude market is advanced to 68 cents per barrel, a 2-cent boost.

The Rumanian government desiring to use pipe line transportation instead of the railroads to ship crude oil sends two of its most eminent engineers, Messrs. Constantenesca and Cihodran, to the United States to study how the Americans do it. The proposed Rumanian pipe line will be a nonprofit government venture.

20 YEARS AGO

The Bureau of Mines says new refining processes must be evolved this year to prevent a serious shortage of oil products in 1918. Only one big field has been opened in the United States in five years.

An idea of the gas wastage in the flush days of the Cushing, Okla., field is given in the record of one well that blew off 938,000,000 feet of gas in order to recover oil from one sand, and then 280,000,000 feet from a lower sand, a total of 1,218,000,000 feet of wasted gas.

Bill Graham of Tulsa and John Bird of Pawhuska, Okla., drill in a 6,000-barrel well in the Osage Nation, an unusually large well in that field.

10 YEARS AGO

The Seminole field, produced 440,228 barrels per day from 579 wells in the past week, an average production of 760 barrels per well per day. One well averaged 12,713 barrels per day during the week.

The Roxana Petroleum Company No. 1 McCulley in Logan County, Oklahoma, good for 3,000 barrels initially at 5,989 feet, is the deepest producing well in the Mid-Continent region. It is in the Marshall pool.

William Shroat, a driller in Las Animas County, Colorado, descends into a drill hole to a depth of 126 feet, hitched onto the square of a bit, and later drew it to the surface. The hole was uncased.

EDWARD W. SCOTT, of the Union Oil Company's geological department, has left Los Angeles for Alaska to succeed ROBERT ATWELL, who is ill.

L. G. CHRISTIE, head of the geophysical department for the Shell Petroleum Corporation on the Texas Gulf Coast, with headquarters in Houston, is spending his vacation in Oklahoma.

J. J. ROMMER, formerly general superintendent for the Ohio Oil Company in Oklahoma City, Okla., has been transferred to the company's office in Houston, Tex., as division superintendent for the Texas district.

DR. EUGENE A. STEPHENSON has resigned as professor of petroleum engineering in the Missouri School of Mines and Metallurgy, Rolla, Mo., to become professor of petroleum engineering in the School of Engineering and Architecture, University of Kansas, Lawrence, Kans.

E. L. SMITH, of Mexia, Tex., oil operator and president of the East Texas Chamber of Commerce, addressed the Shreveport, La., Rotary Club recently, urging cooperative opposition to the proposed abolition of the 27½ per cent depreciation allowance now permitted on oil revenues in federal income tax returns.

L. M. MOFFITT, secretary-treasurer of the Triangle Drilling Company and president of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, Shreveport, La., has been appointed a member of the tax policy and advisory committee of the Independent Petroleum Association of America by CHARLES F. ROESER, president.

PARAGRAPHS

EDWIN B. COX, Ardmore, Okla., of Edwin B. Cox & Jake L. Hamon, accompanied by MRS. COX, sailed on the Queen Mary from New York this week for a tour of Europe. They will return about September 1.

OTTO KOCH, of Bradford, Pa., president of the Kendall Refining Company, who underwent an operation in a Cleveland, Ohio, hospital, has returned to his home. His condition was reported as satisfactory.

M. J. DELANEY, Dallas, Tex., drilling contractor and oil operator, has left for a trip to Hawaii. He was accompanied by his daughter, MRS. W. D. McBEE, and daughter-in-law, MRS. H. R. DELANEY, and by MRS. EUGENE CONSTANTIN, the Dallas group motoring to San Francisco. There they joined a party from Tulsa, including MR. and MRS. W. L. CONNELLY and MR. and MRS. D. M. KELSEY. Mr. Connelly is chairman of the board and Mr. Kelsey general superintendent of Sinclair Prairie Oil Company. The group planned to sail from San Francisco for Honolulu, there to spend 10 days before returning.

EDWARD W. BISETT, of Pampa, Tex., superintendent of production for the Skelly Oil Company in the Texas Panhandle, and MRS. BISETT, were in Bradford, Pa., the past week to attend the wedding of Mr. Bisett's sister, MISS BETTY BISETT, and DR. EDWARD J. LAVIN.

JOSEPH MILLER has been transferred from the Marcus Hook refinery of the Pure Oil Company to Mount Pleasant, Mich., as general superintendent of Pure Transportation Company. He replaces DAVID E. BEACH, who resigned to become vice president, secretary and general manager of the newly organized McClanahan-Leonard Pipe Line Company. Previous to his connection with the Pure refinery in Marcus Hook, Mr. Miller was with the United States Pipe Line Company, a Pure subsidiary.

L. P. GARRETT, vice president of the Gulf Oil Corporation, of Houston, accompanied by MRS. GARRETT, arrived in New York June 29 for a visit in the East. The Garretts made the trip to New York from Houston aboard the Santa Elena.

DR. FLORUS R. BAXTER was honor guest Thursday, July 1, at the annual dinner and entertainment held in Gargoyle Park, Olean, N. Y., by Socony-Vacuum Oil Company refinery employes. It was Doctor Baxter's eightieth birthday. For many years he was in charge of the Vacuum Oil Company's chemical laboratories. FREDERICK S. FALES and ARTHUR F. CORWIN, vice presidents of Socony-Vacuum; WILBUR BURT, chairman of the manufacturing committee, and C. W. HADLEY, former chairman, were present. PROF. JOHN ARMSTRONG, of St. Bonaventure College, spoke.

G. G. HOPE, engineer for the Stanolind Oil & Gas Company in the Tomball field, Texas, has been transferred to Joliet, Ill.

DANA HOGAN was reelected chairman and ROSS McCOLLUM vice chairman of the field committee of Mountain View and Edison oil operators at the annual election held in Bakersfield, Calif., recently.

H. M. PRESTON, geologist of the Republic Petroleum Company, spent several days in Bakersfield, Calif., last week inspecting drilling operations of the company out on the water front of the Kern River field.

PAUL HULL has been placed in charge of the newly opened office of the Tide Water Associated Oil Company in Borger, Tex. Mr. Hull was formerly in the production department of the Texas Company.

RUSSELL D. WOOD, of the Honolulu Oil Corporation and L. F. WATSON, of the Chanslor Canfield Midway Oil Company, were recently elected chairman and secretary respectively of the Taft chapter of the California Natural Gasoline Association.

COL. W. C. O'FERRALL of El Dorado, Ark., who recently resigned as vice president in charge of production for the Lion Oil Refining Company, has become associated with E. M. JONES, well-known Texas and Arkansas oil operator who has extensive holdings in the new Schuler field. Colonel O'Ferrall will maintain headquarters in San Antonio, Tex. Previous to his connection with Lion Oil, Colonel O'Ferrall was division superintendent of the Standard Oil Company of Louisiana for 15 years.

Division of Hard Knocks

When John E. Howell resigned recently as general superintendent of oil production for the Empire Companies to become vice president and director of the Lion Oil Refining Company, El Dorado, Ark., he was ceremoniously awarded a diploma from the "Delta Preparatory College, Division of Hard Knocks," along with a *summa cum laude*. The diploma was signed by Empire officials, and former associates acted as the faculty. So they must believe he worked for what he got.

JOHN E. HOWELL

Upon his discharge from the army in 1919 Mr. Howell joined the Empire Gas & Fuel Company as a junior engineer. He had graduated from Alabama Polytechnic Institute with a B.S. in electrical engineering. He saw service as roustabout, pumper and farm boss before he was advanced to district superintendent of production and development at Okemah, Okla., in 1922. The next year he was transferred to Wichita Falls, Tex., as division superintendent. In 1925 he was made assistant general superintendent of the oil division, Empire Group, with headquarters in Bartlesville, Okla. Seven years later he became general superintendent of oil production, and he held that post till he severed his connection with the Empire to join the Lion organization. His new position has plunged him into development of the deep-sand Schuler field, opened by Lion's No. 1 Edna Morgan last April.

W. V. HOWARD, consulting geologist, Tulsa, left on a professional trip to Chicago and then to Kevin-Sunburst field, Montana.

GEORGE W. LaPEIRE, formerly chief geologist for the United Fuel Gas Company of Charleston, W. Va., is establishing consulting geological offices in Robinson, Ill.

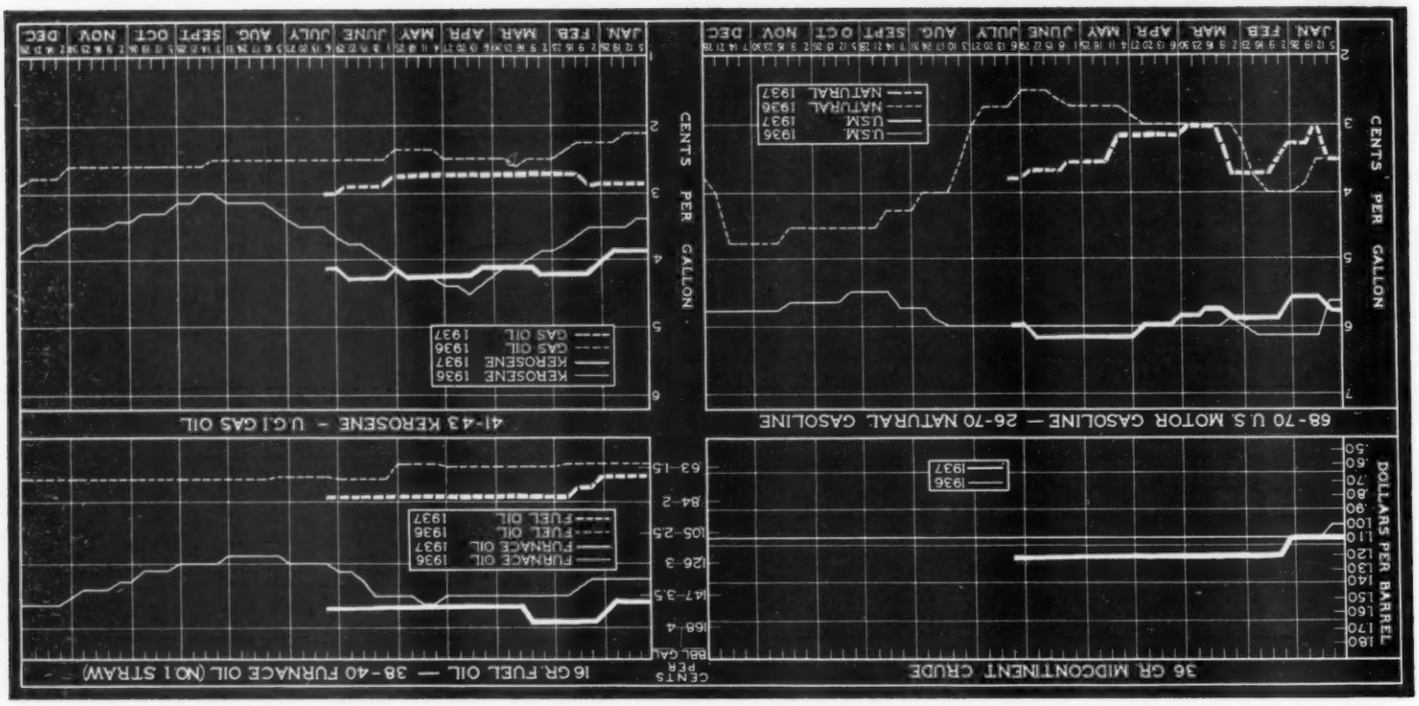
O. V. HENRY, employed by the Ohio Oil Company in the Carlisle area of the East Texas field, has been promoted to production superintendent in the Haynesville, La., field, succeeding J. N. BISH, retired.

JOHN LANGSTON, chief scout for the Sun Oil Company in Dallas, Tex., accompanied by his family, is spending a vacation in the mountains of Colorado. They will visit points in New Mexico on the way home.

C. W. LORD was reelected president of Bolsa Chica Oil Corporation at the annual meeting of the company held recently in Los Angeles, and R. R. TEMPLETON and EUGENE H. BLANCE were elected to the board of directors.

DWIGHT McCABE, president of the Golden Petroleum Company, and J. F. McGINLEY, field superintendent, have moved from San Angelo to Abilene, Tex., the headquarters of the company having been transferred to the latter city.

WARNER CLARK, of the Standard Oil Company of California, and FRED M. ZIEGLER, of the St. Helens Petroleum Company, were reelected chairman and vice chairman respectively of the Coyote, Montebello, Whittier field committee of the Central Committee of California Oil Producers.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Motor Fuel Market Steadied by Holidays Heavy Consumption

By D. H. STORMONT

Stimulated by the unusually heavy demand for gasoline due to the triple holiday provided by Independence Day, Group 3 motor fuel markets this week were in a slightly strengthened position although there were no changes in quotations. Early reports pointed to record consumption over the week-end as practically all sections of the country were visited with good motoring weather. And as the markets became adjusted to the usual motoring season demand, following the period of heavy buying to care for the holiday consumption, refiners generally were in much improved spirits.

Spot Market Brisk

Demand for motor fuel has been running high for the past several weeks with contract movement heavy and the spot tankcar market brisk. Several refiners with small storage capacity have been unable to fill their current orders and have been in the open market for supplies to fill their contract demand. Refinery operations in the Mid-Continent are now at near-capacity levels with the majority of refiners planning to hold their daily runs to stills at these levels throughout July. These factors, several informed market observers stated, point to a restoration of the one-eighth cent reduction in motor fuel quotations which took place following a sag in tank-wagon gasoline prices in Group 3 trade territory.

Another factor causing better feeling in the trade is the rapidity with which stocks of motor fuel are dwindling. According to figures supplied by the American Petroleum Institute, total stocks of finished gasoline in the past three weeks have declined over 2,000,000 bbls. Mid-Continent refiners' inventories during this three-week period were reduced some 900,000 bbls.

Refined Oil Market Barometer

Heavy gasoline consumption and the rapid dwindling of inventories are creating a firmer tankcar market in interior sections, causing many marketers to forecast higher motor fuel prices in the near future. Increased spot movement of gasoline is strengthening Eastern motor fuel markets. In agricultural areas demand for tractor fuels, lubricants and heavy fuels is improving as wheat harvest gets into full swing.

MID-CONTINENT. Gasoline firming with demand strong. Naturals steady.

EAST COAST. Motor fuels strengthened. Light fuel oils remain active.

GULF COAST. General market firm. Gasoline and kerosene strong.

CALIFORNIA. Fuel and diesel oils strong. Gasoline firm.

PENNSYLVANIA. Gasoline strong. Bright stocks and neutrals weaker.

CHICAGO. Gasoline steadier. Kerosene and heavy fuels holding.

Natural gasoline, following the one-eighth cent advance in quotations last week, remained in good demand at the higher prices. Buying by both domestic and export users continued at much the same levels with the heavier consumption of motor fuel resulting in a slight increase in spot buying.

This year's natural gasoline market has shown a decided contrast from those of the preceding few years in that there has been decidedly less fluctuations in prices. So far this year prices have varied only three-quarters cent, whereas in 1935 and 1936 the variance was about 1.5 cents and in 1934 over 2 cents. Quotations this year also have been somewhat higher than those of last year, the average of the 26-70-pound grade for the first six months being .0337 cent as compared with .0310 cent in the like period of 1936. Strength of the present market and the trend toward more volatile motor fuels point to a firm fall market.

Harvest Aids Markets

The heavy wheat crop now being harvested in the lower central states is playing an important role in Group 3 Market now that the harvest is in full swing. Third-grade gasoline, tractor fuels and lubricants were slightly more in demand as wheat growers thresh one of the largest crops of the past few years. This demand should continue for several weeks, as the harvest moves into the north central region, and as fall plowing begins.

Furnace oils were fairly firm while the heavy industrial fuels were in more active demand. The latter is also being influenced by the wheat harvest as railroads move the grain to market. Inquiries for furnace oils were mostly of the bargain-hunting type, although many jobbers, remembering last winter's experiences, were showing a disposition to shop for their fall requirements a little earlier than usual. Little material was moving in the spot market. Bright stocks and neutral oils were in satisfactory movement while wax was in active demand with last week's prices holding.

Gasoline Strong and Kerosene Active in East Coast Refined Oil Market

By H. STANLEY NORMAN

NEW YORK, July 6.—Heavy shipments against contracts, combined with increased spot gasoline business along the North Atlantic seaboard last week, strengthened the general tone of the motor fuel market, but prices covering most of the business were unchanged from previous quotations.

Reports were current that less material is available at concessions as jobbers are forced to pay the current Gulf Coast prices for replacement stocks. Effect of the triple holiday week-end has not been fully reflected in reports on gasoline stocks, but decreases of more than 1,000,000 bbls. for each of the two preceding weeks give a fair indication of the business enjoyed by marketers in this section of the country. Pennsylvania refiners are reported unable to satisfy the demand for motor fuel reaching their order rooms and some refiners have been forced to retire to their contract business exclusively.

Probably the most active material in the open market around New York last week was kerosene An open market trader reported sale of 20,000 bbls. of kerosene in New York harbor at 6 cents a gallon, only a fraction below the general quotation of 6.3 cents posted by the larger refining units along the New Jersey and Pennsylvania coast. In fact, all light fuel oils remained active and contracts for next winter's business are returning at a rate said to be gratifying to the major suppliers in this section. The shipping instructions against contracts and new business in all light fuel oils remain exceptionally heavy for this season of the year. There is no inclination to move fuel oil at concession prices because of seasonal conditions so far this summer, due to the heavy call expected to develop with fall weather in September or October.

That there will be a minimum of shading prices in fuel oils during the summer is indicated by the apparent willingness of large companies to take over any distress material. There have been a few outstanding sales of this character and others may be expected if some of the smaller concerns feel required to move part of their fuel oil to provide storage room during the motor fuel season.

Although some observers do not expect much advance in gasoline prices in the New York harbor territory during the remainder of this year, owing to contracts which have nearly six months to run, the tone is improving in certain low-pressure spots. There is indication that New Jersey prices are firming and talk is heard that 7½ cents a gallon is the best that can be done in the open tankcar market at seaboard plants. Some claim that limited material can be had at New Jersey plants for inland shipment at 7⅝ cents, but there probably is more material moving at 7¾ cents than at the lower figure.

Prices for New York delivery remain steady with most of the large refiners quoting 8¼ cents on their branded material. Unbranded gasoline of 65 octane is available in the open market for New York delivery at 8 cents a gallon, while even this price can be shaded on occasion. The retail market is fairly stable, although prices in northern New Jersey are from 5 to 7 cents below pump quotations in northern New York and about 3 cents below postings in Manhattan and other New York metropolitan boroughs.

Lubricant Prices Sag

Price recessions were recorded last week on most grades of Pennsylvania bright stocks, cylinder stock and neutral oils. The pressure was particularly heavy on bright stocks, although a wave of interrefinery buying brought a temporary halt to the downward tendency at the end of the week.

Gasoline, kerosene, gas oil and heavy fuel oils remain strong on the Gulf Coast. Export interest remains focused on gas oil and reports were current that orders are standing for any material which may come into the open market. In the absence of sufficient gas oil to meet the export demand, traders were showing interest in gasoline and kerosene, but no cargo sales were reported for the past week. The best grades of gas oil are quoted on the Gulf Coast at 4¼ cents a gallon with some of the less desirable material available at 4⅛ cents.

Several refiners are quoting kerosene at 5 cents a gallon on the Gulf Coast, although it was said that firm bids at fractionally lower figures might induce sales. Motor fuel of 68 octane is generally quoted at 6⅝ cents, with 65 octane offered at 6½ cents a gallon. The tanker rates asked by boat owners remain practically unchanged from the previous week, ranging up to 62 cents a barrel for cargoes of light fuel oil and down to 54 cents for light crude. The high tanker market is exerting pressure on the hand-to-mouth gasoline buyers dependent on Gulf Coast sources for supplies. The pressure is particularly keen on those dealers competing for the "price" class of business in New Jersey.

Some market observers are giving careful attention to the tanker market's influence on business volume and for its possible reaction against current Gulf Coast prices. In view of the consumption touching high levels in other parts of the country, however, there are no other markets to which the jobbers on the Atlantic seaboard can normally turn for their supplies.

With favorable weather inducing motorists to take to the road over the triple holiday, companies reported a record volume of motor fuel business for the start of July. Closing of educational institutions in the Northeast at the end of June will also produce its results in vacation travel since thousands of families have awaited the time when their children would be free to go along before starting vacations.

The gasoline demand in western Pennsylvania is running abreast of conditions on the Atlantic Coast. Several refiners were reported in the market as buyers in an effort to meet shipping instructions of contract customers. U. S. Motor gasoline was quoted at 6 cents a gallon while 65-octane material was fully 1½ cents higher. Kerosene and wax were strong with gasoline, but motor oils were genarally off a cent per gallon.

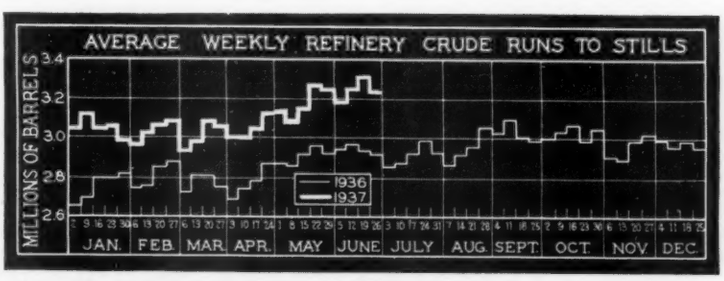
The light demand by jobbers for lubricating oils was attributed to the fact that most of their early summer requirements have been stocked by this time and that the current lull was not altogether unexpected. The indications that export interest might forestall a reduction in bright stocks failed to materialize up to the end of last week. Some export traders, however, passed along the hope that they may again be active in the lubricating market in the East within another week or 10 days.

Heavy fuel oils are strong on the Gulf Coast at 95 cents a barrel. In North Atlantic seaboard trade,

(Continued on Page 122)

A. P. I. Weekly Refinery Statistics

Refinery figures for the week ending July 3 not available owing to Independence Day



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending June 19, 1937	307,465,000 barrels
Week ending June 12, 1937	307,199,000 barrels
Week ending June 20, 1936	312,420,000 barrels

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of July 6, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15 5	13.5	4.0	10.1
Decatur	15 5	14 0	4 0	10.1
Joliet	15 5	14 0	4 0	10 1
Peoria	15 5	14.0	4 0	10.1
Quincy	15 3	13 8	4 0	7 6
Davenport, Ia.	15 5	14 0	4 0	‡13 1
Des Moines	15 3	13 8	4 0	‡12 9
Mason City	15 7	14 2	4 0	‡13 3
Sioux City	15 5	14 0	4 0	‡13 1
Duluth, Minn.	17 3	15 8	5.0	10.9
Mankato	16 9	15.4	5 0	10 5
Twin Cities	16 9	15 4	5 0	10 5
Lacrosse, Wis.	16 9	15.4	5 0	10 5
Green Bay	17 2	15 7	5.0	8 6
Milwaukee	16 8	15 3	5 0	10 4
Detroit, Mich.	15 4	13 9	4 0	9 8
Grand Rapids	16 5	15 0	4 0	10 9
Saginaw	16 3	14.8	4.0	8.5
Evansville, Ind.	17 0	15.5	5 0	†10.6
Indianapolis	17.2	15.7	5.0	†9.6
South Bend	17.4	15.9	5 0	†9 6
Fargo, N. Dak.	16 9	15 4	4 0	11.5
Minot	18 1	16 6	4.0	12.7
Huron, S. Dak.	17 3	15 8	5 0	10 9
Kans. City, Mo.*	14 9	13 4	4 0	8 9
St. Louis*	15 2	13 7	4 0	9 8
St. Joseph*	14 9	11 4	4.0	6.9
Wichita, Kans.	14 4	12 9	4 0	7 5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Iowa kerosene prices include 3-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	13 0	11 5	4 0	8 0
Newark	13 0	11 5	4 0	8 0
Annapolis, Md.	15 1	13 6	5 0	10 0
Baltimore	14 5	13 0	5 0	8 5
Cumberland	16 9	14 4	5 0	10 0
Wash'g'n, D. C.*	12 5	11 0	3 0	9 0
Danville, Va.	17 7	15 2	6 0	12 9
Norfolk	16 5	14 0	6 0	11 5
Petersburg	16 8	14 3	6 0	11 7
Richmond	16 8	14 3	6 0	11 7
Roanoke	18 0	15 5	6 0	12 9
Charles'n, W. V.	16 3	13 8	6 0	12 6
Parkersburg	15 6	13 1	6 0	11 2
Wheeling	15 5	14 0	6 0	12 2
Charlotte, N. C.	18 9	16 4	7 0	13 6
Hickory	19 4	16 9	7 0	13 0
Mt. Airy	19 2	16 7	7 0	12 8
Raleigh	18 5	16 0	7 0	12 1
Salisbury	19 0	16 5	7 0	12 7
Charleston, S. C.	17 5	15 0	7 0	11 1
Columbia	18 5	16 0	7 0	12 1
Spartanburg	19 2	16 7	7 0	12 9

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	22 0	19 0	7 0	*13 0
Augusta	21.0	18 0	7 0	*14.0
Macon	21 5	18 5	7 0	*14 5
Savannah	19 0	16.0	7.0	*12.0
Birm'ham, Ala.	19 5	16 5	8 0	12.0
Mobile	22 0	19 0	9 0	11 0
Montgomery	22 0	19 0	9.0	14.5
Jackson, Miss.	21 0	18 0	7 0	*13 0
Vicksburg	20 5	17 5	7 0	*13 0
Jacksonville, Fla.	20 5	17 5	8 0	11 0
Miami	20 5	17 5	8 0	†11.5
Pensacola	22 0	19 0	9 0	12 0
Tampa	20 0	17 0	8 0	11 0
Lexington, Ky.	20 0	17 0	6 0	11 0
Covington	19 5	16 5	6 0	11.0
Louisville	20 0	17 0	6 0	10.5
Paducah	20.0	17.0	6.0	8.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline tax	Gasoline Inc.	Kero. tank-wag.
Denver, Colo.	17 5	5 0		11 5
Grand Junction	20 0	5 0		15 0
Pueblo	16 0	5 0		10 5
Casper, Wyo.	18 0	5 0		11.5
Cheyenne	18 0	5 0		13 0
Butte, Mont.	19 5	6 0		15 5
Billings	21 5	6 0		15 5
Helena	21 5	6 0		15 5
Great Falls	21 5	6 0		15 5
Salt Lake, Utah	19 5	5 0		16 0
Twin Falls, Ida.	21 5	6 0		18 0
Boise	21 5	6 0		18 0
Albuquerque, N. M.	17 5	6 5		12 0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag
Ohio points	17.0	16 0	5 0	*13 5

*Includes state tax of 1 cent.

Divided dealer price is also price to authorized agents, exclusive of .5 cent rental. Tank-wagon price is price to commercial consumers in deliveries of 25 gallons or more; less than 25 gallons gets service-station price.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17 0	18 0	4 0	9 0
Fresno, Calif.	18 5	19 5	4 0	12 0
Phoenix, Ariz.	21 0	22 0	6 0	‡16 0
Reno, Nev.	20 0	21 0	5 0	13 0
Portland, Ore.	20 0	21 0	6 0	13 5
Seattle, Wash.	20 0	21 0	6 0	13 5
Spokane	23 0	24 0	6 0	16 5
Tacoma	20 0	21 0	6 0	13 5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr	Gasoline Tank car con'r	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	15 0	13 5	5 0	9 0
*Met. N. Y.:				
Manh't'n, Br'nx	15 0	13 5	5 0	9 0
Staten Island	15 0	13 5	5 0	9 0
Q'ns & Brklyn	15 0	13 5	5 0	9 0
Buffalo	15 3	13 67	5 0	8 5
Rochester	15 3	13 74	5 0	8 5
Syracuse	15 3	13 7	5 0	9 0
Boston, Mass.	12 8	12 5	5 0	8 5
Portland, Me.	15 8	13 5	5 0	8 75
Manch'ter, N. H.	16 3	14 0	5 0	9 5
Burlington, Vt.	15 9	13 9	5 0	9 75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag
Omaha	17 9	16 4	6 0	10 4
McCook	18 0	17 1	6.0	10.0
Norfolk	18 3	16 8	6 0	10 8
North Platte	18 7	17 2	6 0	11 2
Scotts Bluff	19.4	17 9	6 0	10.9

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract effective Jan. 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline tax	Gasoline Inc.	Kero tank wag
Muskogee, Ok.	15 0	5 0		7 0
Oklahoma City	15 0	5 0		8 0
Tulsa	14 0	5 0		7 0
Ft. Smith, Ark.	15 0	5 0		10 0
Little Rock	17 5	7 5		9 5
Texarkana	15 0	5 0		9 0

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero tank wag.
Dallas, Tex.	14 0	18 0	5 0	8
Fort Worth	14 0	18 0	5 0	8 0
Houston	14 5	18 5	5 0	8
San Antonio	14 5	18 5	5 0	8 0

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	20 0	17 5	*10 0	†14 0
Baton Rouge	18 0	15 5	8 0	12 0
Alexandria	18 5	16 0	8 0	12 0
Lafayette	19 0	16 5	8 0	12 5
Lake Charles	19 0	16 5	8 0	12 5
Shreveport	17 5	15 0	8 0	9 5
Knoxville, Tenn.	21 0	18 5	8 0	14 0
Memphis	19 0	16 5	8 0	12 0
Chattanooga	20 5	18 0	8 0	13 5
Nashville	20 0	17 5	8 0	11 0
Bristol	19 75	18.5	8 0	14 5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia Pa	14 0	12 5	5 0	10.5
Pittsburgh	15 5	13 5	5 0	11 0
Allentown	14 5	13 25	5 0	11 0
Erie	14 5	13 0	5 0	10 0
Scranton	14 5	13 25	5 0	11.0
Altoona	15 5	13 5	5 0	11
Dover, Del.	14 0		5 0	11 0
Wilmington	13 5		5 0	11
Springf'ld, Mass.	14 8		4 0	9 0
Worcester	13 8		4 0	9 0
Hartford, Conn.	14 6		4 0	9 0
New Haven	14 0		4 0	9 0
Providence, R. I.	12 0		3 0	8 25

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15 7
V.M.&P. naphtha	16 0
Cleaners' naphtha	15 0
Stanisol	15 0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero tank wag.
Halifax, N.S.	24 0	8 0	18.5
St. John, N.B.	24 0	8 0	18 5
Montreal, Que.	21 0	6 0	17 5
Toronto, Ont.	22 0	6 0	17 0
Hamilton, Ont.	22 0	6 0	17.0
Winnipeg, Man.	28 2	7 0	20 7
Brandon, Man.	29 8	7 0	22 3
Regina, Sask.	29 5	7 0	22 0
Saskatoon, Sask.	32 3	7 0	24 8
Edmonton, Alta.	30 5	7 0	24 2
Calgary, Alta.	28 0	7 0	21 5
Vancouver, B.C.	23 0	7 0	23 0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon price. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Retail Price Changes

Standard Oil Co. (Indiana) June 26 reduced tank-wagon kerosene 1.5 cents in Wichita; June 29 reduced tank-wagon kerosene 2.3 cents in Quincy.

Standard Oil Co. of Kentucky June 25 reduced tank-wagon and dealer gasoline 1.5 cents in Birmingham; June 15 reduced tank-wagon and dealer gasoline 1.5 cents in Tampa; and June 10 advanced tank-wagon and dealer gasoline 1 cent in Atlanta.

Inperial Oil, Ltd., July 1 advanced tank-wagon gasoline 1 cent in Montreal.

Organize Supply Workers

HOUSTON, Tex.—Upon the arrival from Chicago of Harold Rasmussen, C.I.O. organizers here announced plans for a membership drive in the oil well supply industry.

Frank Reeves, manager of the W. H. Dunning, Jr., interests in Fort Worth, Tex., is spending a vacation with his children in California.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 6, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.05	.05¼
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
60-62 400 grades:		
62 oct. and below (3d gr.)	.05	.05¼
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
64-66 375	.05	.05¼
68-70 360	.05⅛	.05⅜

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.05	.05¼
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
60-62 400	.05	.05¼
64-66 375	.05	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below	.05½	.05⅝
63-67 octane		.05⅞
68-70 octane (regular)		.06½

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below		.05½
63-67 octane	.06	.06¼
68-70 octane (regular)		.06½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.05	.05¼
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
60-62 400 grades:		
62 octane and below	.05	.05¼
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
64-66 375	.05	.05¼
68-70 360	.05⅛	.05⅜

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.06
60-64.9 octane		.07⅜
65-70 octane		.07½
64-66 375		.06⅛
68-70 350		.06¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¼	.09¼

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)	.07	.07¼
Philadelphia	.07	.07¼
Boston		.07¼
Baltimore	.07	.07¼
Charleston, S. C.		.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)	.07½	.08
Philadelphia	.07¼	.07¾
Boston	.07½	.08
Baltimore		.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.06	.06⅛
60-64.9		.06¼
65 octane and higher		.06½

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05¾
52-54 450 (blending)	.05¾
54-56 450 (blending)	.05⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03¾
Grade 18-55	.04½

NORTH TEXAS—

Grade 26-70	.03¾
Grade 18-55	.04½

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04	.04⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04⅛	.04¼
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04½	.04⅝
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.04¾	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04⅛	.04¼
42-44	.04⅜	.04½

NORTH TEXAS—

41-43	.04¼	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04½	.04⅝

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04¾

PENNSYLVANIA (inland refineries)—

45	.04¾
46	.04⅞
47	.05

CHICAGO (Based on Group 3)—

41-43	.04⅛	.04⅜
42-44	.04⅜	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

41-43	.05½	.05¾

***GULF COAST (domestic)—**

41-43	.04⅞	.05

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03⅛	.03⅜
No. 3, 15 and above, 28-32	.02⅝	.02¾

NORTH TEXAS—

No. 1 prime white, 38-42		.04
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03¾	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅝	.03¾

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03⅛	.03⅜
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1		.05¾
*No. 2	.05⅜	.05⅝
*No. 4	.05⅛	.05⅜

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.05	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.85	.90
Below 18 fuel oil, industrial	.80	.85

NORTH TEXAS—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.05	1.12½
No. 5, low cold test, 18-22	.85	.90
Below 18 fuel oil, industrial	.80	.85

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.05	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.85	.90
No 6, low cold test, 10-16	.80	.85

PENNSYLVANIA (inland refineries)—

36-40	.04⅜	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.15	1.35
24 plus diesel, per bbl.	1.17	1.35
24 plus diesel (bunkers)	1.50	1.65
12-16 (bunkers at tidewater)	1.05	1.20
10-16 (cargo lots)	.95	1.10
12-17 (tankcars)	1.00	1.15
10-17 (high sulfur)	.60	.90
San Joaquin Valley:		
10-18 (tankcars)	.80	1.00
24 plus diesel, per bbl.	1.45	1.65
San Francisco:		
27 plus diesel		1.65
24 plus diesel (bunkers)		1.70
10-16 (bunkers)		1.15

GULF COAST—

28-30 gas oil	.04⅛	.04¼
28-30 diesel (bunkers)	1.65	1.90
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.05

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04¾
28-30 diesel (lighterage 6¼c per bbl.)	2.20
28-30 diesel (tankcars)	.05
Bunker C (to ocean-going ships in N. Y. harbor)	1.35 1.50
Industrial fuel (tankcars)	.04½

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.23
150-160 D, 0-10	.20
150-160 D, 15-25	.19½
150-160 E, 15-25	.19
100-110 D, 0-10	.18
Steam refined:	
631 green (treated)	.17½
600 dark green (untreated)	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):		
10 pour test	.27	.27½
15 pour test	.26	.26½
20 pour test	.25	.25½
25 pour test	.24	.24¼
Steam refined:		
600		.16
650		.18
600 Pennsylvania flash		.19
630 flash		.23
600 Warren E filtered		.19

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-3½	.13
400-3½	.14
100-2½ paraffin oil	.05¾
15-20 Cold Test:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07⅛
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09⅛
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
540-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.24	.24½
10 pour test	.23	.23½
15 pour test	.22½	.23
25 pour test	.21½	.22
180 vis. at 70° F., 3 color:		
25 pour test	.24½	.25
200 vis. at 70° F., 3 color:		
Zero pour test	.28½	.29
10 pour test	.27½	.28
15 pour test	.27	.27½
25 pour test	.26	.26½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.03

PENNSYLVANIA (Inland refinery)—

122-124 (a.m.p.) w.c. scale	.0290	.0295
124-126 (a.m.p.) w.c. scale	.0295	.0300

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0295	.0300
124-126 (a.m.p.) y.s.	.0265	.0280
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅞	.06
60-62 400	.06	.06⅛
61-63 390	.06⅛	.06¼
64-66 375	.06¼	.06⅜

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white	.04⅞	.05
41-43 water white		.05
44 water white	.05	.05⅛

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.26½	.27
600 S.R. unfiltered	.24	.24½
630 S.R. unfiltered	.25½	.26
600 flash, S.R.	.26½	.27
630 flash, S.R.	.31½	.32
Bright Stocks:		
8 color	.32	.32½
6½ plus color in dilution	.31½	.32

NEUTRAL OIL

200-3 color	.34	.34½
150-3 color	.29½	.30

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.	.04125
125-127 a.m.p.	.0425
128-130 a.m.p.	.0450
133-135 a.m.p.	.0525
135-137 a.m.p.	.0550
Crude scale:	
124-126 w.s.	.0295 .0300
124-126 y.s.	.0265 .0280

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas (May 22, 1937)*	$1 35
Van, Tex.†	1 10
Camp Hill, Tex.	1 27
Cass County, Tex.‡	1 25
Talco	73
Altus and Tipton, Okla.§	1 20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.	
Pecos County*	91
Pecos shallow†	81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1 00
Garden Island, La.	1 37
Cleveland, Tex.	1 27
Hardin, Tex.	1 15
Tomball, Tex.	1 30
Lafitte, La.	1 24
Livingston, Tex.	1 27
Satsuma	1 20
Heyser, light (Nov. 1, 1936)	1 15
Heyser, heavy (Nov. 1, 1936)	90
Placedo (Nov. 1, 1936)	90
Welsh, La.	98
Tepetate (La.) (Jan. 4, 1937)	1 12

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tomoconnor and Plymouth take same gravity prices as Gulf Coast, Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1 18
Iles, Colo., heavy*	1 12
Greybull, Wyo.*	1 30
Torchlight, Wyo.*	1 30
Grass Creek, Wyo., light.*†	1 30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	57
Elk Basin, Wyo., light*†	1 30
Frannie, Wyo., heavy*	62
Frannie, Wyo., light	82
Hogback, N. Mex.*	1 33
Pondera, Mont. (Jan. 26, 1936)*	1 05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1 23
Rock Creek, Wyo.†	1 20¼
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. Mex.	90
Maljamar, N. Mex.	90
Canon City and Florence, Colo.	1 10
Florence, Colo.	98
Lance Creek, Wyo.	97
Sunburst, Mont. (June 5, 1936)	1 20
Cat Creek, Mont.	1 40
Cut Bank, Mont.	1 35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1 25
Illinois	1 35
Princeton, Ind.	1 35
Midland, Mich.	1 42
West Branch, Mich. (July 1, 1937)	1 21
Buckeye (March 16, 1937)	1 39¼
Arenac, Mich. (July 1, 1937)	1 21
Muskegon, Mich	1 00
Eastern Kentucky:	
Big Sandy River	1 42
Kentucky River	1 50
Western Kentucky	1 40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Southwest Texas

(January 28, 1937)

Pettus	1 37
Salt Flat, Darst Creek, Hilbig, Carroll Clark, Zoboroski	1 00
Luling	1 00
Lytton Springs	1 12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ 90
Tullos and Urania	1 02
El Dorado East field	90
Union County, Ark.	90
Ouachita County, Ark.	90

Eastern States

TIDE WATER PIPE LINE CO.
(Effective June 7, 1937)

Bradford, Pa.	$2 82
Allegany, N. Y.	2 82

SOUTH PENN OIL CO.
(Effective June 7, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2 82
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2 57
Pennsylvania Grade Oil in Eureka Pipe Line lines	2 52
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2 37
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Jan. 29, 1937)	1 42

PENNZOIL CO.
(Effective June 7, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2 82
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2 81
Includes Tidioute district.	
Group C	2 80
Includes Turkey and Tidioute districts.	
Group D	2 79
Includes Bear Creek and Porkey districts.	
Group E	2 76
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emienton, Tiona, Lacey and Kinzua districts.	
Price depends on lengths of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective June 7, 1937)

Cabin Creek, W. Va.	2 52
Bradford Hollow, W. Va.	2 52
Kelly Creek, W. Va.	2 52

Canada

Ontario (Sept. 9, 1933)*	
Petrolia	$2 10
Oil Springs	2 17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2 60
Discolored naphtha, 65 gravity and higher	2.30
Discolored naphtha and crude oil, 40-40.9 gravity	1.85
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2 27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1 24

*In U. S. currency, f.o.b. ship, based on April spot market transactions.

Crude Oil Price Changes

Simrall Corp., Mount Pleasant, Mich., effective July 1, reduced the price it pays for West Branch and Arenac crude oil 5 cents per barrel, making the new price $1.21 a barrel.

New York Market

(Continued from Page 119)

Bunker C fuel oil is quoted at $1.35 to $1.50 a barrel with some refiners restricting their business to contract customers. Despite the fact that most of the refiners are using bonded bunkering material for all the trade possible, heavy fuel oils are a constant problem. The inability of the industry to accumulate what is considered safe stocks of heavy fuel oils this summer appears to be based on the heavy demand from industrial plants which are running at rates never before exceeded in some instances.

Wax prices appear to be on stronger ground. Crude scale wax of 122-124 and 124-126 a.m.p. is quoted generally from 2.95 to 3 cents per pound. Domestic purchasers are particularly active in the market at present and suppliers report no difficulty in moving material at current quotations.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, Satsuma, Texas	Gulf Coast	Gulf Coast	West Texas except Pecos County, Lea County, N. Mex.	Mirando district, Texas	Marion County, Texas	Government Wells, Texas	Anahuac	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$ 90	....	....	....	....	....	$ .85	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	.87	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	.89	$ .94	$ .84	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$ .95	....	$ .90	....	$ .90	.91	.96	.86	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.93	....	.93	.93	.98	.88	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	.96	....	.96	.96	1.01	.91	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	.99	....	.99	.99	1.04	.94	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.02	....	1.02	1.02	1.07	.97	....
Bel. 25	....	$ .98	....	....	$ .90	....	....	$ .93	....	....	....	....	....	$ .90	....	....	....	....	$ .88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$ .78	1.05	.92	....	1.05	1.10	.99	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	....	1.08	1.13	1.03	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	....	1.10	1.15	1.05	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	....	1.12	1.17	1.07	.96
Bel. 29	$ 1.06	....	$ .96	$ 1.03	....	....	....	....	$ 1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	....	1.14	1.15	1.09	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	....	1.16	1.21	1.11	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	....	1.18	1.23	1.13	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	....	1.20	1.25	1.15	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	....	1.22	1.27	1.17	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	....	1.24	1.29	1.19	1.08
Bel. 35	....	....	....	....	....	$ .96	$ .91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	....	1.26	....	1.10	....
36-36.9	1.22	1.22	1.12	1.19	1.13	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	....	1.28	....	....	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	....	1.30	....	....	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	....	1.32	....	....	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	....	1.34	....	....	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	....	1.36	....	....	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.
Columns 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co. Humble Oil & Refining Co. prices start at 30-30.9 gravity at $1.16 adding 2 cents for each degree upward to and including 40 and over at $1.36.
Columns 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

Texas Wildcats

(Continued from Page 115)

26, H.&T.C. Sur. Testing lime 3,638-54 ft. with acid.
C. C. Wilson No. 1 W. T. Waggoner. Geo. Butler Sur. A-3. O.S. 1,099-1,110 ft.; tstg.

Wise County

Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. Drlg. 2,458 ft.

Young County

F. W. Bennett No. 1 R. V. Tidwell, J. L. Blackwood Sur. A-1378. Tstg. S.S.O. 3,370-83 ft.
H. J. Cox No. 1 W. T. Donnell, J. M Smith Sur., sec. 1-7-1879. S.D.O. 1,810 ft.
Hickok et al No. 1 A. P. Martin, V. H. Twilliger Sur. A-1883. Drlg. 2,160 ft.
T. D. Humphrey No. 1 S. R. Ragland, T. B. Kuykendall. R.U.C.T.
Lupton & Long No. 1 W. I. Gilmore, J. Gilmore Sur. A-2135. Drlg. 1,110 ft.
Pitzer & West No. 1 Norton "B", sec. 615, T.E.&L. Sur. Drlg. 2,800 ft.
H. Zweifel No. 1 E. S. Graham. B.S.&F. Sur. A-44. S.L. 3,483-96 ft.; tstg.
H. Zweifel No. 1 R. D. Sewell, M. Case Sur. A-1402. Drlg. 3,920 ft.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ending July 3 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	80	3,900	86½	80	86½	Amerada Corp.	788,675	N.P.	50cQ	7-31-37	$2.00	125½	75	80	4
37	27¼	6,300	30⅜	27¼	30⅜	Atlantic Refining	2,664,000	$25	25cQ	6-15-37	1.25	35⅛	26⅝	28	20
43⅜	27⅝	4,700	30½	27⅝	30½	Barber Co.	387,149	$10	25c.	6-1-37	.50	38½	21	22½	11⅝
35¼	23½	9,700	26	23½	26	Barnsdall Oil Co.	2,247,974	$5	25cQ	8-2-37	.80	28¼	14⅛	14⅜	5⅞
20⅞	10	23,600	11½	10½	11⅜	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	23⅜	14	15⅜	3⅝
17⅞	14½	34,900	15¾	14¾	15¾	Consolidated Oil Corp.	13,919,417	N.P.	20cQ	8-14-37	.80	17¼	11½	12¼	6⅛
47⅜	39¾	16,000	47¼	42½	47¼	Continental Oil of Delaware	4,682,615	$5	50cQ†	6-30-37	1.50	44⅞	28⅛	35	15⅛
17⅝	12½	12,100	15⅜	14	15⅜	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
35⅜	25⅛	6,800	28½	25¾	28⅜	Mid-Continent Petroleum	1,855,912	$10	50cSA	6-15-37	1.15	30⅞	17¼	20½	9½
34	23⅞	2,200	26⅛	24	26⅛	Mission Corporation	1,399,345	N.P.	....	....	.45	29⅞	16¾	17¾	10⅝
36½	31⅜	13,200	36½	34¼	36⅛	National Supply of Delaware	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
22⅞	17⅛	21,500	20¼	18⅛	20¼	Ohio Oil Co.	6,563,377	N.P.	50cSA	6-15-37	.60	18	12⅛	14¼	9⅜
29¾	20¾	300	23½	23½	23½	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6⅜
4½	2	1,000	2⅜	2	2	Panhandle P. & R.	198,770	N.P.	....	....	....	4¼	1⅜	1⅞	⅝
59¼	49½	13,700	57½	52½	57	Phillips Petroleum	4,449,052	N.P.	75cQ†	6-1-37	2.50	52⅜	38⅛	40	13⅜
29⅞	24¼	4,500	26½	25⅝	26⅜	Plymouth Oil Co.	1,050,000	$5	35cQ†	3-31-37	.90	27⅜	11⅞	13	6½
24⅜	16⅝	140,500	20⅝	17	20½	Pure Oil Co.	3,281,120	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
54⅛	36⅝	2,100	41⅞	38	41⅞	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-37	1.00	44	30½	36⅞	20⅜
34⅜	25⅝	3,900	28¼	26⅝	26⅝	Shell Union Oil	13,070,625	N.P.	50c	7-15-37	.25	28¼	14⅜	16½	5½
105⅜	102	1,000	104¾	104½	104½	Shell Union Oil 5½% pfd.	343,500	$100	26⅛c	12-15-36	28.87½	127½	102	111	63½
4¼	3½	300	3½	3½	3½	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	6¾	3½	18¾	4⅜
60⅝	42	2,100	57½	52⅞	57½	Skelly Oil	1,006,348	$15	50c	7-1-37	.	47⅜	19½	20½	6½
20¼	16¼	77,500	20⅛	18⅞	20⅛	Socony-Vacuum	31,151,071	$15	25cSA	3-15-37	.70	17½	12½	15⅜	10⅝
50	39⅝	11,400	41⅞	39⅝	41⅞	Standard Oil of California	13,014,754	N.P.	45cQ†	6-15-37	1.20	47⅝	35	41⅛	27⅜
50	40½	9,900	43	42⅜	43	Standard Oil (Indiana)	15,196,241	$25	40cQ†	6-15-37	2.40	48½	32¾	33⅜	23
33½	30⅝	No sales	..	..	..	Standard Oil of Kansas	134,841	$10	$1	12-26-36	1.00	31	25	32	20
76	63⅛	16,400	67¼	64	67¼	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	6-15-37	2.00	70⅜	51⅛	52⅜	35⅜
77½	65	500	67½	67	67½	Sun Oil	2,156,825	N.P.	25cQ	6-15-37	$1 & 6% Sk.	91	70	77	60½
65⅛	50⅜	29,600	60¼	57¼	60¼	Texas Corp.	10,896,858	$25	50cQ	7-1-37	1.50	55¼	28⅞	30¼	16½
9⅝	6	4,200	6⅞	6⅛	6⅞	Texas Gulf Producing Co.	888,126	N.P.	5c	12-15-36	.05	8⅞	4⅜	4⅜	2½
16⅝	11⅜	5,300	14¾	13½	14¾	Texas Pacific Coal & Oil	888,237	$10	10c	6-1-37	.25	15¼	7½	9¼	3⅛
21⅝	15⅜	13,400	18	16¼	17⅞	Tide Water Associated	6,288,512	N.P.	20cQ	6-1-37	.70	21¾	14⅜	15⅞	7⅝
28¼	22⅞	8,200	24	22⅞	24	Union Oil of California	4,386,070	$25	30cQ	5-10-37	1.00	28½	20¾	24	14⅜
31½	24¾	1,500	26½	25¼	26½	Union Tank Car Co.	1,200,000	N.P.	40cQ	6-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	4¼	2,100	5	3¾	5	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Ex-dividend. †Includes extras.

New York Curb Exchange

1937 High	1937 Low	Week ending July 3 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	16	600	16¼	16	16¼	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	21	13¼	14⅛	3⅝
51½	45¾	300	49¼	38	49¼	Buckeye Pipe Line Co.	200,000	$50	$1Q	6-15-37	3.25	50	39¾	42	
2¾	1⅝	8,000	1¾	1⅝	1¾	Carib Syndicate	799,020	25c	....	....	....	4⅞	1⅞	⅞	1⅝
123	110¼	50	114¾	114¾	114¾	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-28-37	7.00	124¾	105	157	115
5⅜	2⅝	18,200	2⅞	2¾	2¾	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	⅝
5⅜	4⅛	12,700	5⅜	4⅛	5⅜	Cosden Oil	399,687	$1	....	....	....	4½	1½	1½	¼
38	28½	7,600	37½	34⅞	37	Creole Petroleum	6,974,356	$5	50cSA†	6-10-37	.50	39	19⅞	23¾	10
18⅝	11½	900	12⅛	11½	11⅞	Darby Petroleum	351,390	$5	25cSA	7-15-37	.50	18⅛	9	8⅞	4
8¼	5¼	700	6⅜	6	6¼	Derby Oil & Refining	263,162	N.P.	....	....	....	6¾	1⅞	2	⅝
47½	36½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	8-2-37	4.00	47½	38½	38	33¼
63½	50	8,900	55¼	51	55¼	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-37	1.50, 100% Stk.	59	36	74⅜	50¼
87	72	2,200	78½	75¼	78½	Humble Oil & Refining	8,923,935	N.P.	37½cQ	7-1-37	1.50	80	57	64	44
24¼	20	1,300	20¼	20	20	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-37	1.25	24½	19¾	22½	15⅝
15	7¾	200	10	10	10	Indiana Pipe Line	300,000	$10	30cSA	5-15-37	.80	9¾	5½	6⅛	3⅝
39½	33½	2,100	34¾	33¾	34¾	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-37	2.50	39⅝	32⅝	39¾	28
15¼	11⅜	3,500	12⅝	11¾	12⅝	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-15-37	.50	15⅜	9⅞	11⅝	4⅜
33⅛	16⅛	18,900	33⅛	29	33	Lion Oil Refining	270,000	N.P.	50cQ†	7-20-37	.75	17¾	7⅜	8⅛	3½
14¼	9⅞	1,500	10½	10⅛	10⅜	Lone Star Gas	5,382,723	N.P.	20c	4-20-37	.60	14¼	9⅞	10⅞	4½
14⅝	9½	400	10	9⅝	10	Midwest Oil Co.	998,444	$10	50c	6-15-37	.	..	..	..	..
7	4⅛	1,600	6¼	6	6⅛	Mountain Producers	1,682,182	$10	30cSA	6-15-37	.60	8⅜	5	5⅜	4⅛
19½	14½	200	15	15	15	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-37	1.00	23	17⅜	20	11⅝
12½	10	800	10⅜	10	10⅜	National Transit	509,000	$12.50	45cSA	6-15-37	.75	15⅜	9¼	10⅝	6⅜
6⅛	4¾	500	5⅜	5½	5½	New Bradford Oil	1,445,202	$5	15cSA	4-15-37	.10	4⅝	2⅞	3¼	2
5	2¼	200	2⅜	2¼	2¼	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	4½	No sales	..	..	..	New York Transit	100,000	$5	15cSA	10-15-36	.35	6¼	4¼	4⅞	3
12¾	7½	1,100	10½	9	9	Northern Pipe Line	120,000	$10	40c	6-1-37	.40	9¾	4⅞	8	5¼
9⅝	5½	24,100	8½	7⅝	8⅜	Pantepec Oil	1,608,700	N.P.	....	....	....	10⅛	3¼	4⅜	1⅜
13¾	5	2,400	6⅝	5½	6⅝	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	19¼	4½	5	1½
6½	4	1,500	5¼	5	5⅛	Ryan Consolidated	296,931	N.P.	....	....	....	4¾	1⅞	2½	⅝
48	42	400	43	42½	42½	South Penn Oil	1,000,000	$25	75cQ†	6-30-37	2.60	44	32½	34½	21⅝
7¼	5	100	5¼	5¼	5¼	Southern Pipe Line	100,000	$10	20cSA	3-1-37	.25	7⅞	3¼	5	3⅞
42	27	No sales	..	..	..	South West Penna. Pipe Lines	35,000	$50	50cQ	4-1-37	13.00	60	44	56	44¼
20¾	19	2,000	19⅝	19⅛	19⅝	Standard Oil of Kentucky	2,604,790	$10	40cQ†	6-15-37	1.35	23⅜	17⅛	24	18
13¾	9⅞	100	9⅞	9⅞	9⅞	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7⅝
45	33	1,200	34⅝	33½	34⅝	Standard Oil of Ohio	753,740	$25	25cQ	3-15-37	2.00	40	21¾	23⅝	11½
4⅞	3¾	11,600	4¼	3⅞	4¼	Sunray Oil	1,910,119	$1	5c	4-26-37	.10	5	2⅝	2⅞	⅞
7⅝	5	800	5⅝	5⅛	5⅝	Texon Oil & Land	336,028	$2	15cQ	6-30-37	.60	9¾	5⅝	6⅞	5

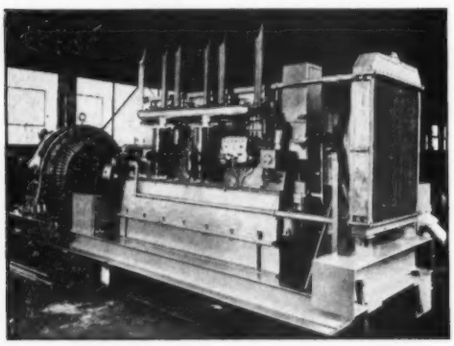
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

New Features Mark Portable Diesel Generating Plant

The Western Engine Corp., 1000 Alhambra Avenue, Los Angeles, Calif., has delivered a new type portable diesel generating plant said to be unusual



in certain respects. The four-cycle, six-cylinder diesel engine with 7¼-inch bore and 8-inch stroke, is direct-connected to a 150-K.W. Allis-Chalmers 220-440-volt, 60-cycle alternator. The engine, generator, cooling radiator and 50-gallon fuel-oil tank are mounted on a structural-steel skid base. An instrument-panel in a gas- and dust-tight steel box includes A.C. ammeter and voltmeter, and a D.C. exciter voltmeter, rheostat and main-line switch.

A Woodward type C hydraulic governor controls the engine speed within close limits so that two or more of the units can operate parallel with each other and maintain perfect frequency phase. Other accessory equipment includes a Cuno lubricating-oil filter, a Groco lubricating-oil cooler, two Vortox air-cleaners on the intake manifold, a Fast coupling between the engine and generator, and the Bosch fuel-injection system. A gasoline engine-driven air-compressor and air-storage tank are mounted on a separate skid base.

This type DS Western diesel is designed for ready conversion to natural gas by removing the Bosch fuel system and air-intake manifold, and substituting in their place a natural-gas carburetor and a magneto.

Bulletins, Booklets and Other Literature for the Trade

Among articles of special interest to the oil industry in the current issue of Heat Engineering, published by the Foster Wheeler Corp., 165 Broadway, New York, are those on oil-field portable superheaters, cracked gasoline distillation, and the big tank steamer recently built for the Sun Oil Co.

"There's more to a useful oil-field supply service than wrapping up the package," says an editorial on "Our Obligation" in the current issue of the Bridgeport Bulletin, published by the Bridgeport Machine Co., Wichita, Kans.

A 20-page booklet announced by the Leeds & Northrup Co., 4906 Stenton Avenue, Philadelphia, Pa., discusses improved corrective water treatment by means of Micromax automatic pH recording or controlling equipment.

A 12-page bulletin on the recently developed round-chart potentiometer pyrometers is announced for distribution by the Bristol Co., Waterbury, Conn. These instruments are available as temperature recorders and controllers.

The Byron Jackson News Letter, published by the Byron Jackson Co., Los Angeles, Calif., starts its ninth consecutive year with the latest number of that periodical.

The American soldered-seal index frame and glass and the American silent reverse stop are announced in an attractive bulletin issued by the American Meter Co. and obtainable at any of its branches.

The thirty-third edition of "How to Run a Lathe," is announced by its publisher, the South Bend Lathe Works, South Bend, Ind. Its 160 pages contain late and authoritative information about the fundamental operations of modern lathe practice. The manual is sent on receipt of 25 cents.

How the Lane-Wells gun perforator helped to bring in the world's deepest producer, the Humble Oil & Refining Co. No. 1 Ellender in the Houma field, Louisiana, bottomed at 12,165 feet, is told in the current issue of Hot Shots, published by the Lane-Wells Co., Los Angeles, Calif.

An 80-page loose-leaf catalog prepared by the Crosby Steam Gage & Valve Co., Boston, Mass., is devoted to descriptions and illustrations of Crosby safety and relief valves.

Interesting field pictures showing Wheatley installations are a feature of the latest number of the Wheatley Pumper, published by Wheatley Bros. Pump & Valve Manufacturers, Tulsa.

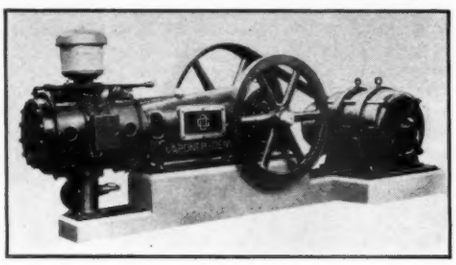
Attractive interior and exterior views of the new wing at the Thomas and Hochwalt laboratories division of the Monsanto Chemical Co., Dayton, Ohio, appear in the June number of Monsanto Current Events, published by the company.

Bulletin No. 101, illustrating and describing the new McNeely vibrating mud screen, may be obtained from the Vernon Tool Co., Ltd., 2740 East Thirty-seventh Street, Los Angeles, Calif., or McNeely Materials Co., 2935 Jensen Drive, Houston, Tex.

"Caterpillar" diesel RD8 with LeTourneau treedozer, clearing land in preparation for drilling operations on Humble Oil & Refining Co. lease 10 miles northeast of Freer, Tex. Working 12 hours a day on three and one-third gallons of 3-cent fuel per hour. Former cost of clearing this land was $40 an acre. Now clearing 10 acres a day on about 10 cents worth of fuel an acre.

Compressor Affords Full-Load Service at Low-Power Cost

The Gardner-Denver Co., Quincy, Ill., announces an improved single-stage, horizontal air-compressor for heavy-duty full-load service and continuous operation at low-power costs. The RX



compressor has totally enclosed dustproof construction without sacrifice of accessibility, as well as accurate balance and freedom from vibration. Another important feature is the electro-pneumatic control. With this control the compressor always starts unloaded, and the air supply is automatically adjusted to fit the air requirements, resulting in exceptional part-load economy. The compressors are equipped with Timken tapered adjustable roller main bearings.

President of Ryerson Company

Everett D. Graff, first vice president of Joseph T. Ryerson & Son, Inc., was elected president by the board of directors. Mr. Graff has been with Ryerson 31 years, going to the company immediately upon graduation from college in 1906. Edward L. Ryerson, Jr., is chairman of the board of the Ryerson company and vice chairman of the Inland Steel Co.

W. F. Kurfess and V. H. Dieterich, assistant vice presidents, were elected vice presidents. Ainslie Y. Sawyer, formerly assistant vice president, was made assistant to the president.

The Ryerson company, merchandising subsidiary of the Inland Steel Co., has warehouse plants in 10 industrial centers. During the past year it has made important strides in plant modernization and range of stocks.

Moving Pictures at Oil Show

Motion pictures depicting petroleum operations and including methods used in many foreign fields will be shown daily at the Oil-World Exposition to be held in Houston, Tex., October 11 to 16, inclusive. Films have been obtained from manufacturers of equipment and the Bureau of Mines. A three-reel film, "Through Oil Fields of Mexico," was made in cooperation with the American Oil Co. "Refining the Crude," a four-reel picture made in connection with the Gulf Refining Co., shows the processing of crude from the field to finished products. "Petroleum, the Liquid Mineral" made in cooperation with the Pure Oil Co., shows in four reels the technique of oil production, including exploration and drilling.

MECO ACTS AS HOST IN NEW AND ENLARGED PLANT

The Maintenance Engineering Corp., Houston, Tex., opened its new plant at 3611 Clinton Drive June 28 by acting as host to the Houston Purchasing Agents Association. Approximately 130 men

were guests and a tour of inspection through the plant followed a luncheon. C. E. Naylor, chairman of the board of directors, and Joe Peddie, president, gave brief talks, and O. D. Story, president of the association, responded.

The move to enlarged quarters comes on the thirteenth anniversary of the Maintenance Engineering Corp. This company is factory representative for manufacturers of oil industry equipment, has a staff of 45 men and occupies 60,000 square feet of plant on a 2½-acre site. When it began in 1924, C. E. Naylor directed all business in one rented room with a single assistant.

The new plant is equipped with welding and shop facilities for fabricating special hookups to oil company specifications and with modern water-testing laboratory. A spur railroad siding delivers shipments direct to warehouse stocks.

R. W. Downes Visits Oil Fields

R. W. Downes, special representative of the Butler Manufacturing Co., Kansas City, Mo., and Minneapolis, Minn., for Butler bolted tanks and ready-made steel buildings, is contacting field men and purchasing agents in the production and pipe line divisions of the oil companies in the Mid-Continent, Rocky Mountain and Michigan fields. Mr. Downes has been associated with Butler for years.

Here and There With Men Who Manufacture Equipment

The sales organization of the Billings & Spencer Co., of Hartford, Conn., held a three-day sales conference recently at which Billings representatives from throughout the United States and Canada were present.

J. H. Fisher, president of the Fisher Governor Co., was honored at a banquet held recently in the Hotel Tallcorn, Marshalltown, Iowa. The banquet was the closing event of a three-day sales convention attended by 82 Fisher representatives.

The Loeffler-Greene Supply Co., Oklahoma City, Okla., has been appointed distributor for the line of controls manufactured by the Mercoid Corp., 4213 Belmont Avenue, Chicago. It will specialize in automatic controls for the petroleum industry.

The Mason-Neilan Regulator Co. has opened a branch at 1457 South Concord Street, Los Angeles, Calif., offering stocks and servicing facilities for regulators, instruments, valves, assembly and calibration of thermal systems.

Fred A. Levien, representative of the National Foam System, Inc., of Tulsa for the past several years, has moved his office to Chicago. William S. Walker succeeds him in Tulsa, with an office at 2 East Tenth Street.

New Properties for J-M

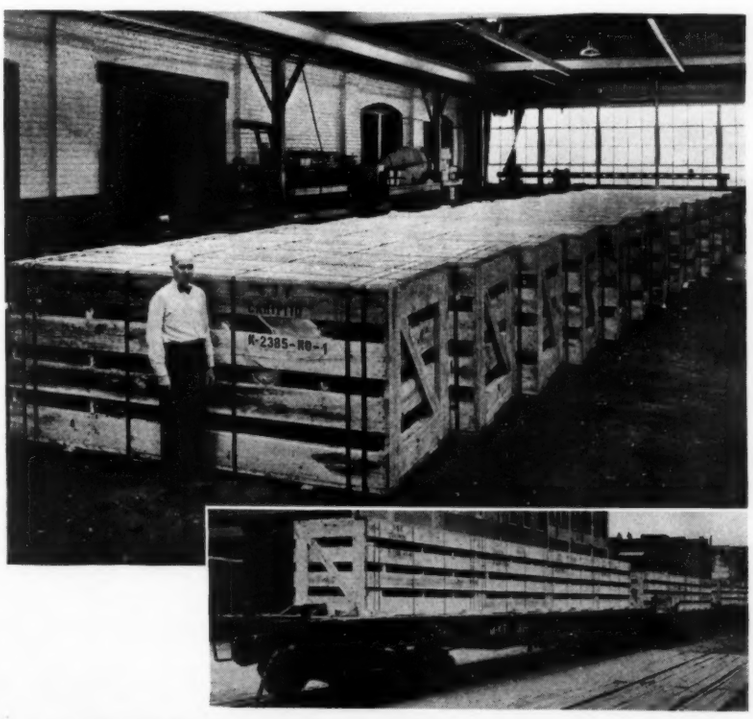
Lewis H. Brown, president of the Johns-Manville Corp., has announced negotiations have been completed for the acquisition of two new properties by the Johns-Manville Products Corp. In Watson, suburb of Los Angeles, an option to purchase a 50-acre plot has been acquired; and as soon as possible construction will start on a $1,000,000 factory. This new plant will produce rock-wool home insulation and Transite asbestos-cement pipe. Negotiations has been completed also for the purchase of the Richmond, Ind., plant of the Fibre Conduit Co. Johns-Manville intends to begin this month the installation of equipment for the manufacture of a new type of low-temperature insulation.

Field Survey Completed

George Nelson, associated with Natural Gas Equipment, Inc., for the past three years, has completed an extensive field survey of Mid-Continent conditions affecting the application of N.G.E.-Nelson series 1000 gas burners. During this time Mr. Nelson operated out of the offices of the Natural Gas Equipment Co. of Texas in Houston. The trip covered approximately 8,000 miles, and Mr. Nelson visited many oil companies for which his organization has installed burners.

Bonding Mortar Is Improved

Further improvement has been made in the refractoriness and working quality of Harwaco bond, a high-temperature bonding mortar recommended for use in industrial furnace masonry. The improved product has a pyrometric cone equivalent of cone 32 (3,092° F.). Use of this diaspore-base bonding mortar in place of mortar consisting essentially of fireclay is becoming increasingly general for laying fireclay, super-duty fireclay, and high-alumina brick where a strong bond must be maintained at the upper limits of industrial furnace operating temperatures. It remains uniformly soft and plastic throughout the steel drum or container in which it is shipped. The improvement in the product is the result of several years of research by the Harbison-Walker Refractories Co. Pittsburgh, Pa.



Each of these big crates contains a Gaso duplex pision power pump for oil pipe-line service. The shipment, from the Gaso Pump & Burner Manufacturing Co., Tulsa, for an oil company operating in Venezuela, weighed 55 tons

Oil Man's Calendar

July

12-13—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

August

10-15—Mount Pleasant, Mich., Third Michigan Oil and Gas Exposition.

September

6-10—Rochester, N. Y., American Chemical Society.
7-8—Louisville, Ky., Kentucky Petroleum Marketers Association, Annual Fall Conference.
13-16—San Francisco, Calif., North American Gasoline Tax Conference.
15-17—Atlantic City, National Petroleum Association, annual meeting, Hotel Traymore.
16-19—Taft, Calif., Pacific Oil Show and Black Gold Festival.
27—Cleveland, Ohio, American Gas Association nineteenth annual convention.
29-30—Cleveland, Ohio, Ohio Petroleum Marketers Association, Fall Conference, Hotel Carter.

September—October

27-Oct. 1—Rochester, National Association of Petroleum Retailers, fifth national convention.
30-Oct. 1.—Tulsa, S.A.E. Fuels and Lubricants Regional Meeting.

October

7-9—Los Angeles, Calif., S.A.E. National Aircraft Production Meeting, Ambassador Hotel.
11-15—Kansas City, Mo.—Twenty-sixth National Safety Congress and Exposition.
11-16—Houston, Tex., Oil-World Exposition.
12-14—Chicago, Ill., National Oil Marketers Association Convention, Stevens Hotel.
13-14—Indianapolis, Ind., Indiana Independent Petroleum Association, annual fall convention, Hotel Severin.
14-16—Pittsburgh, Pa., mid-year meeting, American Association of Petroleum Geologists, William Penn Hotel.
14-16—Houston, Tex., Independent Petroleum Association of America, annual meeting.
18-22—Atlantic City, N. J., American Welding Society, Eighteenth Annual Meeting and Welding Exposition.
21-22—Traverse City, Mich., Michigan Petroleum Association.
26—New York, Oil Trades Association of New York
28—New York, S.A.E. Annual Dinner, Commodore Hotel.
29-30—Dallas, Tex., Mid-Continent Oil and Gas Association of Texas, annual meeting.

October—November

27-Nov. 3—New York, National Automobile Show, Grand Central Palace.

November

9-12—Chicago, American Petroleum Institute, eighteenth annual meeting, Stevens Hotel.
8-12—Chicago, American Petroleum Institute, Eighteenth Annual Meeting, Stevens Hotel.
16—New York, Oil Trades Association of New York.

December

6—Memphis, Tenn., National Asphalt Congress.
6-11—New York, Exposition of Chemical Industries Grand Central Palace.
8-10—Flint, Mich., S.A.E. National Production Meeting.

1938

March

16-18—New Orleans, twenty-third annual meeting American Association of Petroleum Geologists, Roosevelt Hotel.

April

17-21—Dallas, Tex., American Chemical Society.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER

Patents Obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to any one, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE!
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For Sale—Maps

SUCCESSFUL OIL OPERATORS
Are Using
ZINGERY OIL MAPS
Our Up-to-Date Lease and Fee Ownership Maps of Counties and Combination Development Maps Save Time and Money.
WRITE FOR DESCRIPTIVE FOLDER
1937 Revised Edition Map of State of Texas, eastern N. M., parts of southern Okla., SW Ark. and La. shows Oil and Gas Fields in color, Counties and County seat and elevations, co-ordinated alphabetical index of fields and counties.
Price $1.00 postpaid
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth, Texas

SOUTHWESTERN UNITED STATES
Includes all of following states: Texas, Louisiana, Mississippi, Arkansas, Oklahoma, Kansas, also Eastern New Mexico. Shows all oilfields by name and location. Alphabetically arranged list on margin of all discoveries these States during 1936. Lithographed. Size 3 x 4 ft. $1. Same map with pipe lines to date, white print with blue lines $7.50. Send for illustrated catalog describing 400 ownership and field maps in Texas and Louisiana.
ZINGERY MAP COMPANY
Houston, Texas.

LATEST MAP showing detailed oil development, land and lease ownerships, from Miller Co., Ark., southwest through Rodessa, Cass and Marion counties, Texas. 2½ x 9½ feet. Paper, $7.50. Cloth $10. W. H. Whaley, Box 925, Longview, Texas.

Ranches and Farm Lands

350 ACRE irrigation farm and an adjoining 3,469 acre pasture land for sale. Railroad loading shed in center of farm. County highway passes along side of farm. Location 20 miles northwest of Laredo, Texas. Write to JOHN DAVIS, Joyce, Webb County, Texas.

Royalties—Production

BUTLER COUNTY, KANSAS, ROYALTY

Interest for sale by drilling contractor.

Under 80-acre lease with well now drilling.

(Offset well has produced for past 3½ years).

A limited amount offered for the purpose of meeting drilling cost.
RECORDABLE ASSIGNMENT OF INTEREST TO BE MADE DIRECT TO PURCHASER.
1/240th Interest $200.00.
1/480th Interest $100.00.

W. H. SCHWARTZ, DRILLING CONTRACTOR
Residence 214 North Estelle Street. Wichita, Kansas.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Addresses Wanted

WILL PAY CASH for names and addresses of production supts. and engineers. Box 2603, Tulsa, Oklahoma.

Royalties—Production

Oil Royalties and Oil and Gas Leases
Bought and Sold
E. T. Marion
1109 Petroleum Building
Midland, Texas.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

F. A. SANSOME
Maintains a Complete Trading Organization for Brokers, Banks and Dealers
In
Oil Royalties.
522 Fifth Avenue, New York, N. Y.

PERMIAN BASIN Royalties, fee lands, and leases, bought and sold. L. Wesley Read, Bush Building, Lubbock, Texas.

250a GRADY COUNTY Royalty 4N-5W. Priced to sell. Gypsy drilling deep test. Will exchange few acres to scatter bets. A. N. Wooldridge, 904 First National Bldg., Oklahoma City, Oklahoma.

ROYALTY to offer in LEA COUNTY, NEW MEXICO, and YOAKUM COUNTY, TEXAS. J. W. Wallrich, Lovington, N. M.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London, E. C. 2., England, are buyers of producing oil royalties.